

**International Conference on Computations and Data Sciences  
(CoDS-2024)**

**March 08-10, 2024**

**Organized by Department of Mathematics in collaboration with iHUB DivyaSampark  
IIT Roorkee, India**

<https://www.iitr.ac.in/cods24/>

<b>Day 01 (08 March 2024)</b>			
<b>Registration and Conference Kit collection: First Floor Mathematics Dept 8:00-9:20 Hrs</b>			
<b>Inaugural Ceremony: H-601 (Mathematics &amp; HSS Building) 09:30-10:15 Hrs</b>			
<b>High Tea 10:15-10:40 Hrs</b>			
10:40-11:20 Hrs	Keynote/Invited Talk-1	Prof. C. Vuik, TU Delft Netherlands <i>Chair: Prof. Kusum Deep</i>	<b>H-601</b>
11:20-12:00 Hrs	Keynote/Invited Talk-2	Prof. Sachin Jayaswal, IIM Ahmedabad <i>Chair: Prof. Kusum Deep</i>	<b>H-601</b>
12:00-13:30 Hrs	PS-1 (DS01 to DS06) PS-2 (NA01 to NA06) PS-3 (OT01 to OT06) PS-4 (AP01 to AP06)	Data Science Numerical & Scientific Computing Optimization Applications	<b>M-602</b> <b>H-601</b> <b>M-205</b> <b>M-206</b>
<b>LUNCH: Service Floor Mathematics Department 13:30-14:30 Hrs</b>			
14:30-15:30 Hrs	PS-5 (DS07 to DS10) PS-6 (NA07 to NA10) PS-7 (OT07 to OT10) PS-8 (AP07 to AP10)	Data Science Numerical & Scientific Computing Optimization Applications	<b>M-602</b> <b>H-601</b> <b>M-205</b> <b>M-206</b>
15:30-16:10 Hrs	Keynote/Invited Talk-3	Prof. Harbir Antil, George Mason Univ USA <i>Chair: Prof. A. K. Giri</i>	<b>H-601</b>
<b>Tea/Coffee Break 16:10-16:30 Hrs</b>			
16:30-17:10	Keynote/Invited Talk-4	Prof. T. Gudi, IISc Bangalore <i>Chair: Prof. Arbaz Khan</i>	<b>H-601</b>
17:10-17:50 Hrs	Keynote/Invited Talk-5	Prof. Christian Micheloni, Udine Italy <i>Chair: Prof. Manu Gupta</i>	<b>H-601</b>
18:00-18:30 Hrs	iHub/Industry Session-I		<b>H-601</b>
<b>Dinner: Service Floor Mathematics Department 19:30-21:00 Hrs</b>			
<b>Day 02 (09 March 2024)</b>			
<b>Breakfast 07:30-09:00 Hrs</b>			
09:00-10:30 Hrs	PS-9 (DS11 to DS16) PS-10 (NA11 to NA16) PS-11 (OT11 to OT16) PS-12 (AP11 to AP16)	Data Science Numerical & Scientific Computing Optimization Applications	<b>M-602</b> <b>H-601</b> <b>M-205</b> <b>M-206</b>
<b>Tea/Coffee Break 10:30-10:45 Hrs</b>			
10:50-11:30 Hrs	Keynote/Invited Talk-6	Prof. S. Sundar, IIT Madras <i>Chair: Prof. Ankik Giri</i>	<b>H-601</b>
11:30-12:10 Hrs	Keynote/Invited Talk-7  Keynote/Invited Talk-8	Prof. T. Som, IIT BHU <i>Chair: Prof. S. P. Yadav</i> Prof. B.V. Rathish Kumar, IIT Kanpur <i>Chair: Prof. Sumit Kumar, IIMU</i>	<b>H-601</b>  <b>M-602</b>
12:15-13:30 Hrs	PS-13 (DS17 to DS21) PS-14 (NA17 to NA21) PS-15 (OT17 to OT21) PS-16 (AP17 to AP21)	Data Science Numerical & Scientific Computing Optimization Applications	<b>M-602</b> <b>H-601</b> <b>M-205</b> <b>M-206</b>
<b>LUNCH: Service Floor Mathematics Department 13:30-14:30 Hrs</b>			

**International Conference on Computations and Data Sciences  
(CoDS-2024)**

**March 08-10, 2024**

**Organized by Department of Mathematics in collaboration with iHUB DivyaSampark  
IIT Roorkee, India**

<https://www.iitr.ac.in/cods24/>

14:30-15:10 Hrs	Keynote/Invited Talk-9	Prof. Cristoph Erath, Austria Chair: Prof. M. T. Mohan	<b>H-601</b>
15:10-15:50 Hrs	Keynote/Invited Talk-10	Prof. Arindama Singh, IIT Madras Chair: Prof. Uaday Singh	<b>H-601</b>
<b>Tea/Coffee Break 15:50-16:10 Hrs</b>			
16:10-16:50 Hrs	Keynote/Invited Talk-11	Prof. Natesan Srinivasan, IIT Guwahati Chair: Prof. Chaman Kumar	<b>H-601</b>
16:50-17:30 Hrs	Keynote/InvitedTalk-12	Prof. M. Arana Jimenez, Spain Chair: Prof. Amit Kumar, TUP	<b>M-602</b>
	Keynote/InvitedTalk-13	Prof. Jitendra Kumar, IIT Ropar Chair: Prof. Sushil Kumar, NIT Surat	<b>H-601</b>
16:10-18:00 Hrs	Industry Session	ONGC Session: Prof. Mayur Pal, KTU Lithuania Chair: Prof. Ravi Sharma	<b>M-111</b>
<b>Gala Dinner 19:30-21:30 Hrs (Hotel Sarover Portico)</b>			
<b>Day 03 (10 March 2024)</b>			
<b>Breakfast 07:30-09:00 Hrs</b>			
09:00-10:30 Hrs	PS-17 (DS22 to DS27)	Data Science	<b>M-602</b>
	PS-18 (NA22 to NA27)	Numerical & Scientific Computing	<b>H-601</b>
	PS-19 (OT22 to OT27)	Optimization	<b>M-205</b>
	PS-20 (AP22 to AP27)	Applications	<b>M-206</b>
10:30-11:10 Hrs	Keynote/Invited Talk-14	Prof. V. Vetrival, IIT Madras Chair: Prof. Madhu Jain, IITR	<b>M-602</b>
	Keynote/InvitedTalk-15	Prof. Sumitra S., IIST Chair: Prof. Jaydev Dabas, IITR	<b>H-601</b>
<b>Tea/Coffee Break 11:10-11:30 Hrs</b>			
11:30-12:10 Hrs	Keynote/Invited Talk-16	Prof. Boris M., Wayn State Univ. USA Chair: Prof. Sumit Kumar, IIMU	<b>M-602</b>
12:15-13:15 Hrs	PS-21 (DS28 to DS32)	Data Science	<b>M-602</b>
	PS-22 (NA28 to NA32)	Numerical & Scientific Computing	<b>H-601</b>
	PS-23 (NA33 to NA37)	Optimization	<b>M-205</b>
	PS-24 (AP28 to AP32)	Applications	<b>M-206</b>
	PS-25(AP33 to AP38)	Applications	<b>M-111</b>
<b>Valedictory Ceremony 13:15-13:30 Hrs</b>			
<b>Lunch 13:30-14:10 Hrs</b>			
<b>Felicitation of Ex-Faculty Colleagues from Maths Department 14:10-15:00 Hrs</b>			

<b>Parallel Session-01 (12:00-13:30 Hrs on 08.03.2024)</b>		<b>Venue: M-602</b>
<b>Paper ID</b>	<b>Title &amp; Authors</b>	
DS01	Utilizing deep learning for identification of various placental cell types <b>Authors:</b> Sivappriya K, PratitiBadra, and N. Sukumar	
DS02	Multi-output deep FOSLS neural network for solving phase-field model governed by the Allen–Cahn equation <b>Authors:</b> Anjali Singh and Rajen Kumar Sinha	
DS03	A new back propagation idea for optimizing the weights of a neural network with fractional calculus <b>Authors:</b> Sambhu raj P. R., Athira Vinay, and Sasi Gopalan	
DS04	On the computational aspects of oscillatory and non oscillatory activation functions for optimization in deep learning <b>Author:</b> Linu Pinto	
DS05	A novel security framework for secret data sharing using deep learning and visual cryptography <b>Authors:</b> Ilaiah Kavati and Aditya Vinod Mirajkar	
DS06	A BFGS-optimized approach with polynomial smooth support vector machines for rapid and effective classification <b>Authors:</b> Bhubaneswari Mishra and S. Chakraverty	
<b>Parallel Session-02 (12:00-13:30 Hrs on 08.03.2024)</b>		<b>Venue: H-601</b>
<b>Paper ID</b>	<b>Title &amp; Authors</b>	
NA01	Numerical simulations for time-fractional black scholes equation <b>Authors:</b> Neetu Garg, and A.S.V. Ravi Kanth	
NA02	Alternating direction implicit approach for the two-dimensional time fractional nonlinear klein-gordon and sine-gordon problems <b>Authors:</b> Sarita Kumari and Rajesh k. Pandey	
NA03	Error analysis for NIPG method for nonlinear time-fractional Burgers' equation <b>Authors:</b> Sandip Maji and Srinivasan Natesan	
NA04	A high-precision finite difference method for a time fractional Black-Scholes equation <b>Authors:</b> Nizamudheen V, Noufal Asharaf, and Shefeeq T	
NA05	Study of non-linear conformable fractional order reaction diffusion equation using cubic hermite splines <b>Authors:</b> Abdul Majeed, Dereje Alemu Alemar, and Shelly Arora	
NA06	Efficient normal derivative estimation: Sixth order compact scheme for three-dimensional Poisson equation <b>Author:</b> Niranjana	
<b>Parallel Session-03 (12:00-13:30 Hrs on 08.03.2024)</b>		<b>Venue: M-205</b>
<b>Paper ID</b>	<b>Title &amp; Authors</b>	
OT01	Enhanced Indexing portfolio optimization based on prospect theory with expectile <b>Authors:</b> Divyaneer Garg and Aparna Mehra	
OT02	Invalidity of arithmetic operations of interval-valued bipolar q-rung orthopair fuzzy sets <b>Authors:</b> Parul Tomar and Amit Kumar	
OT03	The Gamma connective scalarization for Mult objective polynomial optimizations <b>Author:</b> Sujeet Kumar Singh	
OT04	Invalidity of "Solving matrix games with hesitant fuzzy payoffs" <b>Authors:</b> Kirti, Tina Verma, and Amit Kumar	

OT05	On finiteness of the solution set of extended horizontal linear complementarity problem <b>Authors:</b> Punit Kumar Yadav and K. Palpandi
OT06	Analytical and Monte Carlo simulation methods for uncertainty-driven stability analysis problem <b>Author:</b> Subrat Kumar Jena
<b>Parallel Session-04 (12:00-13:30 Hrs on 08.03.2024)</b> <span style="float: right;"><b>Venue: M-206</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
AP01	Computational cardiology: Forecasting heart diseases with neural networks <b>Authors:</b> Sayyed Afnan and Saket Tabhane
AP02	Disease diagnosis in plants based on deep learning <b>Author:</b> Sarthak Kumar
AP03	A comparative study on training performance of linear and tree based regression for blood pressure prediction <b>Authors:</b> Manas Saha and B. N. Chatterji
AP04	Predicting wait time in radiology department: A machine learning approach with recursive feature selection technique <b>Authors:</b> Jagriti Gupta and Naresh Sharma
AP05	Deep learning based recommended system and disease outbreak alert system <b>Authors:</b> Parag Jain and Nitin Kumar Tripathi
AP06	Feature extraction from normalized signals using daubechies wavelet transformation for AI models <b>Author:</b> Savitha K. N.
<b>Parallel Session-05 (14:30-15:30 Hrs on 08.03.2024)</b> <span style="float: right;"><b>Venue: M-602</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
DS07	Strategies to curb attrition in airline industry using analytics <b>Author:</b> Dhruv Chowdary
DS08	Predicting NIFTY50 index price using machine learning models <b>Authors:</b> Shubhangi Porwal, Namita Srivastava, and Manoj Jha
DS09	Returns premonition: A machine learning approach in predicting pre-order return probability <b>Authors:</b> Piyush Goyal, Heera Lal, Deepak Rawat, Senthil Nathan, and Akansha Kumar
DS10	Disease future out break COVID-19 in Uttarakhand region – Data science, for proactive testing <b>Authors:</b> Parag Jain and Nitin Kumar Tripathi
<b>Parallel Session-06 (14:30-15:30 Hrs on 08.03.2024)</b> <span style="float: right;"><b>Venue: H-601</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
NA07	Efficient finite element computations of mechanical fatigue through a combination of initial stiffness and localizing gradient damage <b>Authors:</b> Sandipan Baruah and Indra Vir Singh
NA08	Epsilon-Uniform robust analysis of weak Galerkin Finite Element Method for Semi-linear singularly perturbed parabolic problems on Bakhvalov-type mesh <b>Authors:</b> Jasbir Singh, Naresh Kumar, Ram Jiwari, and Narendra Singh Yadav
NA09	Towards robust electrolyte modeling: A conforming finite element approach <b>Author:</b> Ankur

NA10	An efficient numerical technique for solving fractional order advection diffusion equation <b>Authors:</b> Anita Devi, Archna Kumari, and V.K Kukreja
<b>Parallel Session-07 (14:30-15:30 Hrs on 08.03.2024)</b> <span style="float: right;"><b>Venue: M-205</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
OT07	Slack-based inverse data envelopment analysis models for merging units with interval data <b>Authors:</b> Anjali Naik and Aparna Mehra
OT08	Parallel-series data envelopment analysis: Efficiency evaluation of banks <b>Author:</b> Alka Arya
OT09	Optimality conditions for semi-infinite equilibrium problems via tangential subdifferentials <b>Authors:</b> Mahamadsophil Arora and Indira P. Tripathi
OT10	A generalized fuzzy best worst method for multi-criteria decision-making <b>Authors:</b> Harshit M Ratandhara and Mohit Kumar
<b>Parallel Session-08 (14:30-15:30 Hrs on 08.03.2024)</b> <span style="float: right;"><b>Venue: M-206</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
AP07	Efficientnet and attention fusion for effective classification of knee osteoarthritis severity <b>Authors:</b> Ananya Pandey and Vidit Kumar
AP08	Analyzing the impact of modulation transfer function (MTF) on computer vision: A multi-faceted exploration <b>Authors:</b> Varsha Shaheen, Karthik P, and Sasi Gopalan
AP09	Improving consumer safeguards: Harnessing computer vision to identify counterfeit merchandise <b>Author:</b> Anshul Ujlayan
AP10	Prediction of surface wettability with water droplet placed on smooth surfaces using LSTM models <b>Authors:</b> Ganesh Sahadeo Meshram
<b>Parallel Session-09 (09:00-10:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: M-602</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
DS11	A comparative study of encrypted coloured images using an interference method in the Gyrator & Fourier domain <b>Authors:</b> Sakshi Arora, Nupur Prakash, and Hukum Singh
DS12	Regularization for image restoration: A two level tight framelet approach <b>Author:</b> Sruthi Raghoothaman
DS13	Computational study on 2D three-phase lag bioheat model during cryosurgery using RBF meshfree method <b>Authors:</b> Sushil Kumar and Rohit Verma
DS14	Lightweight texture classifier for land-cover classification on low-resolution remote sensing imagery <b>Authors:</b> Sakthipriya. G and Padmapriya. N
DS15	Random sampling of mellin band-limited signals <b>Author:</b> Shivam Bajpeyi
DS16	Intuitionistic fuzzy set assisted GAN-oversampling technique <b>Authors:</b> Tanmoy Som, Anoop Kumar Tiwari, and Masetty Gayathri
<b>Parallel Session-10 (09:00-10:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: H-601</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
NA11	Love-type wave propagation in piezo-magnetic fiber-reinforced Composite layered structure with magnetically high and weak conducting imperfect interfaces <b>Authors:</b> Pratiksha Singh and Abhishek Kumar Singh

NA12	Love-type wave propagation in PMFRC composite structures with mass loading sensitivity <b>Authors:</b> Aditya Kumar Kanaujiya and Abhishek Kumar Singh
NA13	A hypersingular integral equation approach to study the effect of edge conditions on the motion of a submerged disc <b>Authors:</b> Tapas Mal, Souvik Kundu, and Sourav Gupta
NA14	Impact of induced magnetic field in thermophoretic bioconvection under convective boundary condition and non-uniform heat source <b>Author:</b> Rakesh Choudhary
NA15	The impact of non-orthogonal geometry and cells on convection in oblique angle cavities using OpenFOAM <b>Authors:</b> Anoop Rathore and Tanmoy Mondal
NA16	Composite finite element framework for evolution equation in nonsmooth domain <b>Authors:</b> Anjaly Anand and Tamal Pramanick
<b>Parallel Session-11 (09:00-10:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: M-205</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
OT11	Multi-objective interval-valued optimization problems: A parametric approach <b>Authors:</b> Ajeet Kumar and Anurag Jayswal
OT12	An entropy-based intuitionistic fuzzy granular structure for feature Subset selection <b>Authors:</b> Priti Maratha, Anoop Kumar Tiwari, Tanmoy Som, and Yasharth Singh
OT13	Approximate solutions of multiobjective semi-infinite programming problems having vanishing constraints <b>Authors:</b> Bishal Biswas, Tamanna Yadav, and Shiv Kumar Gupta
OT14	Solving interval-valued multiobjective optimization problems using techniques of the multiobjective optimization problems <b>Authors:</b> B.B. Upadhyay and Rupesh K. Pandey
OT15	Well-posedness of multidimensional quasi variational inequality problems <b>Authors:</b> Pallabi Samal and Anurag Jayswal
OT16	Design of economical fuzzy logic controller for washing machine <b>Authors:</b> Kriti A.Dheerawat ,Umme Salma M. Pirzada, and Haribhai R.Kataria
<b>Parallel Session-12 (09:00-10:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: M-206</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
AP11	Detection of veer and narcolepsy tendencies using machine learning algorithms and big data monitoring <b>Authors:</b> Saurav K Dubey and Dilip K Singh
AP12	Application of machine learning in solving dynamic flow problems <b>Authors:</b> Ayush Ganguly, Sayan Biswas, Ananya Majumdar, Biplab Ranjan Adhikary, and Partha Bhattacharya
AP13	Challenges in design of flight control algorithms from nonlinear dynamical equations of generic aircraft and UAVs <b>Authors:</b> Dhan Jeet Singh, Lakshman Singh, and Sandeep Kumar Singh
AP14	Innovative AI-based fault diagnosis in commercial induction motors through advanced computational techniques <b>Authors:</b> Bhavishya, Nikhar, Sudhendu, and Asim Tewari

AP15	Tamed explicit scheme of order 2.0 for stochastic differential equations with super-linear drift and diffusion coefficients <b>Authors:</b> Tejinder Kumar and Chaman Kumar
AP16	Milstein scheme for jump-diffusion SDEs with Markovian switching <b>Authors:</b> Divyanshu Vashistha and Chaman Kumar
<b>Parallel Session-13 (12:15-13:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: M-602</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
DS17	Bridging the data gap: A machine learning approach for enhancing groundwater data consistency between grace and Grace-FO missions in Uttar Pradesh, India <b>Authors:</b> Kaustubh Raj, Prahlada V. Mittal, Mridul Sharma, Anuradha Karunakalage, Mohd. Taqi Daqiq, and Ravi Sharma
DS18	Free axisymmetric vibration analysis of porous annular plate using the Haar wavelets and the DQM <b>Author:</b> Yajuvindra Kumar
DS19	Integrating grace satellite data and machine learning for groundwater level analysis and prediction in the state of Uttar Pradesh, India: A way forward <b>Authors:</b> Mridul Sharma, Prahlada V. Mittal, Kaustubh Raj, Mohd. Taqi Daqiq, Anuradha Karunakalage, and Ravi Sharma
DS20	Non-probabilistic approach to study the uncertain spectrum of field variables in a triangular porous cavity <b>Authors:</b> Sudipta Priyadarshini and Sukanta Nayak
DS21	A hybrid intuitionistic fuzzy granular structure based GAN- oversampling technique for data balancing <b>Authors:</b> Tanmoy Som, Anoop Kumar Tiwari, and Gatla Sushmitha
<b>Parallel Session-14 (12:15-13:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: H-601</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
NA17	Two efficient techniques for analysis of fractional Tricomi equation <b>Author:</b> Lalit Mohan and Amit Prakash
NA18	Numerical solution of nonlinear Sine-Gordon equation using modified cubic B-spline-based differential quadrature method <b>Author:</b> Noufal Asharaf
NA19	Numerical approaches for study of the nonlinear Klein Gordon equation <b>Authors:</b> Aditi Singh, Nadeem Malik, and Sumita Dahiya
NA20	Numerical solution of a non-linear integral equation when the reciprocal of the solution lies in the integrand <b>Authors:</b> Indranil Sarkar and Gaurav Singh
NA21	Numerical simulation of Sine-Gordon equation using cubic B-Spline quasi-interpolation method <b>Author:</b> Sudhir Kumar
<b>Parallel Session-15 (12:15-13:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: M-205</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
OT17	Fundamental arithmetic operations for interval-valued intuitionistic fuzzy values/sets with their applications in MCDM problem <b>Authors:</b> Manisha Malik and S. K. Gupta
OT18	Developing a TOPSIS algorithm for Q-rung orthopair Z-numbers with applications in decision-making <b>Authors:</b> Manish Kumar and S.K. Gupta

OT19	Novel goal programming approach for fully intuitionistic fuzzy multiobjective quadratic problems <b>Authors:</b> Sumati Mahajan, Abhishek Chauhan, and S. K. Gupta
OT20	Differentiability and optimality of a fuzzy function of fuzzy variable <b>Authors:</b> U. M. Pirzada and Debdas Ghosh
OT21	E-fractional semi-infinite optimization model having equilibrium constraints <b>Authors:</b> Tamanna Yadav and S. K. Gupta
<b>Parallel Session-16 (12:15-13:30 Hrs on 09.03.2024)</b> <span style="float: right;"><b>Venue: M-206</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
AP17	A priori error estimates of HHO method for semilinear Sobolev equation on polygonal meshes <b>Authors:</b> Ajeet Singh, Hanz Martin Cheng, Naresh Kumar, and Ram Jiware
AP18	Quantum secret sharing based on modified Simon's algorithm <b>Authors:</b> Vidhaan Sinha, Apoorv Tiwari, and Farhan Musanna
AP19	Authenticable quantum secret sharing scheme based on generalized unitary operators <b>Authors:</b> Deepa Rathi and Sanjeev Kumar
AP20	Quantum algorithm for data fitting of under-determined system <b>Authors:</b> Neeshu Rathi and Sanjeev Kumar
AP21	A novel 3D chaotic map-based quantum image encryption algorithm <b>Authors:</b> Vivek Verma and Sanjeev Kumar
<b>Parallel Session-17 (09:00-10:30 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: M-602</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
DS22	Multiresolution analysis on the space of analytic functions and processing of ECG signals <b>Author:</b> Anusree Sreedharan
DS23	HT-EEGAN: Hilbert transformed generative adversarial network for effective removal of artifacts from EEG signal <b>Authors:</b> Banovoth Raja Sekhar and K V Kadambari
DS24	Time Series forecasting using Neuro-fractal Interpolation Method <b>Authors:</b> Anupama K and Sasi Gopalan
DS25	EfficientNet and transformer fusion for effective classification of bleeding and non-bleeding in wireless endoscopy Frames <b>Authors:</b> Anisha Gupta and Vidit Kumar
DS26	Construction of stable underwater sensor network using status unequal domination integrity in graphs <b>Authors:</b> G. Parvathy, P. Srinath and R. Sundareswaran
DS27	A hybrid intuitionistic fuzzy granular structure for partition based feature selection <b>Authors:</b> Anoop Kumar Tiwari, Priti Maratha, Tanmoy Som, and Harshdeep Kohali
<b>Parallel Session-18 (09:00-10:30 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: H-601</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
NA22	Numerical study of MHD Jeffrey Ternary hybrid nanofluid flow over a porous wedge with surface catalysed reactions <b>Authors:</b> A.S. Ashwinth Jeffrey and M. Shanmugapriya
NA23	Study of hybrid nanofluid flow over stretching wedge with suction effect <b>Authors:</b> Renu Jindal and Kushal Sharma



NA24	Generalized power-law model of hybrid non-Newtonian nanofluid with Cattaneo-Christov heat flux, thermal radiation, and convective boundary condition <b>Authors:</b> Jyoti Deshwal and Santosh Chaudhary
NA25	Heat mass transport of unsteady convective MHD flow over a stretching porous sheet under thermal radiation and temperature dependent thermal conductivity with chemical reaction <b>Authors:</b> Ambrish Kumar Tiwari, Matsyendra Nath Shukla, and Priyanka Kaushal
NA26	Capturing non-equilibrium effect in normal shocks within hypersonic flows: Insights from a two-temperature model <b>Authors:</b> Anil Kumar and Anirudh Singh Rana
NA27	Application of septic Hermite interpolation polynomial for solving Burgers type equation <b>Authors:</b> Archana Kumari and V.K. Kukreja
<b>Parallel Session-19 (09:00-10:30 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: M-205</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
OT22	An optimization approach for managing airline disruptions <b>Author:</b> Deepmala
OT23	Optimal hardware generation for neural network acceleration <b>Authors:</b> Rohit T P, Vaishnav Vimal, and Sasi Gopalan
OT24	Multi-objective optimization of mathematical models with multi-population strategy: A case study in soil-water flow parameter estimation <b>Authors:</b> Anoop Pandey, Nirali Vashishth, and Richa Ojha
OT25	Optimizing inventory management for perishable items: Integrating trapezoidal demand, Weibull amelioration, preservation technology, and learning effects <b>Authors:</b> Vijender Yadav, Ankur Saurav, and Chandra Shekhar
OT26	Optimized adaptive meshes using Modified Particle Swarm Optimization algorithm for Singularly Perturbed Problems <b>Authors:</b> Aneesh Panchal and Vivek Kumar
OT27	Optimal System and Invariance analysis of extended BLMP equation via the Lie group method. <b>Authors:</b> Akshita Bhardwaj and Rajan Arora
<b>Parallel Session-20 (09:00-10:30 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: M-206</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
AP22	An automatic speech recognition system in Odia language using data augmentation <b>Authors:</b> Malay Kumar Majhi and Sujana Kumar Saha
AP23	Sound based smart canes: Better experience for visually impaired <b>Authors:</b> Archana B Saxena and Deepti Sharma
AP24	Development of computational algorithms for evaluation of teaching - learning process <b>Authors:</b> Rahul T S H and Srinivas T
AP25	Data delivered based adaptive congestion aware load balancing routing for wireless networks <b>Authors:</b> Nidhi Rathor, Manvi Gupta, Maitreyee Vatsa, Deepak Arya, Vikas Arora, and Bhupal Arya
AP26	Non-isotropic angular fractional Stockwell transform: Properties with comparative examples <b>Authors:</b> Km. Neeraj Singh and Sanjeev Kumar

AP27	Dynamics of cloud droplet evolution using super droplet model <b>Authors:</b> Nita H Shah, Jyoti Chahal, and Bipasha Paul Shukla
<b>Parallel Session-21 (12:15-13:15 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: M-602</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
DS28	Navier-slip Jeffrey fluid flow with inclined magnetic field through a vertical channel using ANN-based computational approach <b>Authors:</b> Ravi Mahla and K. Kaladhar
DS29	A study of linear alkanes using graceful and biconditional cordial graph labelings and edge-labeled adjacency matrices <b>Authors:</b> Paresh Andharia and Anjali Trivedi
DS30	Missing data imputation using data depth <b>Author:</b> M. S. Barale
DS31	Intuitionistic fuzzy twin proximal SVM with fuzzy hyperplane and its application in EEG signal classification <b>Authors:</b> Yash Arora and S. K. Gupta
DS32	Green cloud adoption for sustainability: Mining key drivers <b>Authors:</b> Akanksha Upadhyaya, Disha Garg, and Manoj Kumar Mishra
<b>Parallel Session-22 (12:15-13:15 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: H-601</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
NA28	Solution of extended porous media equation by Laplace differential transform method <b>Authors:</b> Sahu Nagesh and Saroj R. Yadav
NA29	Thermal nonequilibrium convection in a nanofluid saturated porous enclosure <b>Authors:</b> Brinda R.K. and Saravanan S
NA30	An efficient numerical technique to Study sine-Gordon Equation with Collocation Method using Hermite Splines <b>Authors:</b> Priyanka, Shelly Arora, and Saroj Sahani
NA31	Enhanced numerical solutions to Burgers' equation: Combining differential quadrature, trigonometric tension B-splines, and artificial Bee colony optimization <b>Authors:</b> Simran Sahlot and Geeta Arora
NA32	Bleustein-Gulyaev (BG) type wave propagation in PEMFRC stratum substrate structure with welded contact interface <b>Authors:</b> Rahul Meher and Abishek Kumar Singh
<b>Parallel Session-23 (12:15-13:15 Hrs on 10.03.2024)</b> <span style="float: right;"><b>Venue: M-205</b></span>	
<b>Paper ID</b>	<b>Title &amp; Authors</b>
NA33	Model to study interdependent calcium and IP3 distribution regulating NAFT production in T lymphocyte. <b>Author:</b> Hemant Bhardwaj
NA34	Uniformly convergent computational method for singularly perturbed Semilinear Parabolic Problems with Boundary and Weak Interior Layers <b>Authors:</b> Narendra Singh Yadav and Kaushik Mukherjee
NA35	Numerical investigation of imprecisely defined static structural problem using interval type 2 fuzzy finite element method <b>Authors:</b> Paresh Kumar Panigrahi and Sukanta Nayak
NA36	Numerical simulations of 2D unsteady advection-diffusion equation utilizing a meshfree approach based on radial basis functions and differential quadrature method. <b>Author:</b> Sanjay Kumar
NA37	A Haar wavelet scheme for solving fractal fractional differential equations <b>Authors:</b> Harpreet Kaur and Amanpreet Kaur

<b>Parallel Session-24 (12:15-13:15 Hrs on 10.03.2024)</b>		<b>Venue: M-206</b>
<b>Paper ID</b>	<b>Title &amp; Authors</b>	
AP28	Physics-informed neural networks: A deep learning approach for solving porous medium and Korteweg-de Vries equations <b>Authors:</b> Pavan Patel and Saroj R. Yadav	
AP29	Physics informed neural networks for predicting the stability number of Rubble-Mound breakwaters <b>Authors:</b> Susmita Saha, Soumen De, and Satyasaran Changdar	
AP30	Physics-informed machine learning for subsurface flow: A study using neural network-based solvers <b>Authors:</b> Shankar Lal Dangi, Mayur Pal, and Ravi Sharma	
AP31	Plant health assessment through multispectral sensing technique: A novel and cost effective approach using NDVI <b>Author:</b> Harsh Kumar	
AP32	A PINNs algorithm for parameters estimation with applications in post-surgery rehabilitation evaluation <b>Authors:</b> Sumit Kumar Vishwakarma and Sanjeev Kumar	
<b>Parallel Session-25 (12:15-13:15 Hrs on 10.03.2024)</b>		<b>Venue: M-111</b>
<b>Paper ID</b>	<b>Title &amp; Authors</b>	
AP33	Surveillance video summary generation using transformers <b>Authors:</b> Chandra Prakash and Bharath Ramkrishna	
AP34	LiDAR and RGB camera fusion for object detection using Transformers <b>Authors:</b> Virendra Singh Kaira and Yogeshwar Singh Dadwhal	
AP35	Single image super-resolution using T-GAN <b>Authors:</b> Sahil Dharme, Smit Gala, Abhishek Bharti, and Omkar Barbadikar	
AP36	Analysis of consumer awareness about certified labels in the beauty and personal care industry (using analytics) <b>Author:</b> Amrutha Varshini	
AP37	A review on approaches, challenges for aircraft engines prognostics from a data science perspective <b>Authors:</b> Nalla Krishna, Bharath R, and S.V.S.S.N.V.G. Krishna Murthy	
AP38	Triangular interval type-2 fuzzy prioritized weighted average operators and their application into multiple attribute group decision making <b>Authors:</b> Sukhveer Singh, Shilpa Devi, and Mohit K. Kakkar	