



Second International Conference on Mathematics and Applications

ICMA 2024

December 13 – 15, 2024

Kathmandu Nepal

Program Schedule

Registration Thursday, December 12, 2024

15:00 – 19:00 Registration Desk Open (Conference Hotel: Best Western Plus, Kathmandu)

Day 1 Friday, December 13, 2024

07:00 – 08:15 Breakfast

08:15 – 09:00	Inaugural Session (Annapurna Hall) Chair: Prof. Dr. Narayan Prasad Pahari
MC: Dr. Jeevan Kafle , Convener, ICMA-2024	
<i>Welcome Speech:</i> Prof. Dr. Chet Raj Bhatta , Head, Central Dept. of Mathematics, Tribhuvan University (5 minutes)	
<i>Remarks by Convener:</i> Prof. Dr. Dinesh Panthi , Convener, ICMA-2024 (5 minutes)	
<i>Remarks by Chief Guest:</i> Prof. Dr. Kedar Prasad Rijal , Registrar, Tribhuvan University (8 minutes)	
<i>Concluding Remarks:</i> Prof. Dr. Narayan Prasad Pahari , President, Nepal Mathematical Society (5 minutes)	

09:00 – 09:30 **Plenary Talk 1** (Annapurna Hall) Chair: **Prof. Dr. Dil B Gurung**
 ICMA 1 **Prof. Dr. V.P. Saxena**
Dynamics of Certain Human Body Circulations

09:30 – 10:20 **Tea Break**

10:20 – 12:00 **Parallel Scientific Sessions**

Session 1 (Annapurna Hall) Chair: Dr. Puskar R. Pokharel Technical Support: Bal B Tamang	
10:20 – 10:35	Puskar R Pokhrel ICMA 161 <i>Experimental Analysis of Mixture Mass Flows with Coupling</i>
10:35 – 10:50	U. Rajopadhyaya ICMA 177 <i>Development of Some Common Fixed Point Theorems in Semi-metric Space Using various contractive condition</i>
10:50 – 11:05	Rajeev Misra , Rizwana Bano, Akshay Rajput, Ashwani Singh ICMA 116 <i>A Comparative Study of Road Traffic Accidents in India: Analysing the National Trends</i>
11:05 – 11:20	Kuncham Syam Prasad , Tapatee S, Rajani S, Kedukodi B.S., Harikrishnan Panackal ICMA 23 <i>Graphs with Respect to Essential Ideals and Superfluous Ideals of Module Over a Nearings</i>
11:20 – 11:30	Md. Amirul Islam , Md. Saiful Islam, Mst. Shapla Akter, Md. Shafikul Islam ICMA 55 <i>Analytical Schemes of Solitary Wave Solutions for Nonlinear PDEs Using the Novel (G'/G) Expansion Method</i>
11:30 – 11:40	Bal B Tamang , Ajaya Singh ICMA 68 <i>Determining the Solvability or Unsolvability of Modified Quadratic Diophantine Equations</i>
11:40 – 11:50	Maheshwor Pokhrel , Lekhnath Sharma ICMA 113 <i>Investigating Students' Perceptions of Self-Directed Learning in Mathematics at the Basic School Level</i>
11:50 – 12:00	Qiong Zou , Tangwei Liu, Xiaoqing Ruan, Dingding Yan ICMA 134 <i>The Numerical Method Based on Neural Network Method for a Class of Three-Dimensional Steady-State Heat Conduction Problems with Side Boundary Conditions</i>

Session 2 (Sagarmatha Hall) Chair: Dr. Hari Nandan Nath
 Technical Support: Eeshwar Prasad Poudel

10:20 – 10:35 ICMA 160	Hari Nandan Nath <i>Maximum Flow Location Modeling without Restrictions on Facility Sizes</i>
10:35 – 10:50 ICMA 7	Daniel Oluwasegun Adams <i>Boundedness Results for Solutions of Certain Second Order Non-Autonomous Ordinary Differential Equations</i>
10:50 – 11:05 ICMA 132	Rakesh Kumar Meena <i>Study on Susceptible-Infected-Recovered-Removed Model with Fractional Order Using Residual Power Series Method</i>
11:05 – 11:20 ICMA 24	Pallavi P., Kuncham S.P., Madeleine Al Tahan, Vadiraja Bhatta, Harikrishnan Panackal <i>Weak Hypervector Spaces over Hyperfield</i>
11:20 – 11:30 ICMA 47	Eshwar Prasad Poudel, Shreeram Khadka, Jeevan Kafle <i>Solutions of Two Dimensional Contaminant Transport in Turbulence Atmospheric Model</i>
11:30 – 11:40 ICMA 88	Ajay Kumar, Ramakanta Meher <i>Comparative Study of Advanced Analytical Methods for Solving Fractional Differential Equations</i>
11:40 – 11:50 ICMA 118	Jagat Krishna Pokharel, Narayan Prasad Pahari <i>On New Space of Vector-Valued Generalized Bounded Sequences Defined on Product Normed Space</i>
11:50 – 12:00 ICMA 173	Rakesh M. Patel, Pragna A. Vadher, Gunamani B. Deheri <i>Ferrofluid-Based Tilted Deformable Rough Porous Pad Bearing</i>

Session 3 (Board Room) *Chair:* Kamalesh Kumar Lal Karn

Technical Support: Thaneshor Bhandari

10:20 – 10:35 ICMA 158	Kamalesh Kumar Lal Karn <i>Optimizing Dengue Outbreak Predictions Using Fuzzy Logic</i>
10:35 – 10:50 ICMA 25	Falalu Muhammad <i>Transmission Dynamics of Meningitis to Determine the Significance Impact of Vaccination, Negative Effect of Carrier and Control on Children under 15 Years in the NorthWestern Nigeria</i>
10:50 – 11:05 ICMA 133	Dingding Yan, Tangwei Liu, Keyao Li, Wanglin Ouyang, Qiong Zou <i>The Numerical Method Based on Neural Network Method for a Class of Steady-State Heat Conduction Inverse Problems on Annular Domains</i>
11:05 – 11:20 ICMA 26	Enyinnaya Ekuma-Okereke <i>Hybrid Iterative Process for Solving Nonlinear Problems: An Application in Bratu and Delay Differential Equations</i>
11:20 – 11:30 ICMA 57	Thaneshor Bhandari, K.B. Manandhar, Kanhaiya Jha <i>Fixed Point Theorems in Fuzzy b-Metric Space with an Application to Fredholm Integral Equation</i>
11:30 – 11:40 ICMA 89	Arjun Kumar Gaire, Mohammad Shahid, Yogendra Bahadur Gurung <i>New ArcTan-Family of Distribution, Properties, and Application</i>
11:40 – 11:50 ICMA 119	Dal Bahadur Saud <i>Dynamics of Almost Abelian Holomorphic Semigroups</i>
11:50 – 12:00 ICMA 174	Bishnu Bahadur Badaila <i>Teachers' Perceptions and Practices of Digital Technology for Promoting Equity in Mathematics Classroom</i>

12:00 – 13:00 *Lunch*

13:00 – 14:40 **Parallel Scientific Sessions**

Session 4 (Annapurna Hall) *Chair:* Dr. Sushil Chandra Karna

Technical Support: Dilip Kumar Sah

13:00 – 13:15 ICMA 123	Sushil Chandra Karna <i>Dual Satellites: Orbital Dynamics</i>
13:15 – 13:30 ICMA 167	Bhuwan Prasad Ojha, Prakash Muni Bajracharya <i>Some Generalizations of Orthogonality in Terms of Bounded Linear Operators</i>
13:30 – 13:45 ICMA 137	R. Kavin, A. K. Majee <i>Well-Posedness of Nonlinear SPDE Driven by Lévy Noise</i>
13:45 – 14:00 ICMA 29	Padam Sharma <i>Mathematical Study of Heat Regulation in a Human Body with Dermal Tumor Having Malignancy</i>

14:00 – 14:10 ICMA 60	Dilip Kumar Sah , Ajay Kumar Chaudhary, Chet Raj Bhatt <i>Contraction Mappings in Probabilistic Metric Space</i>
14:10 – 14:20 ICMA 90	Bekha Ratna Dangol , Jeevan Kafle, Shiva P. Pudasaini <i>Fundamental Solution to a Universal Dispersive Wave Equation</i>
14:20 – 14:30 ICMA 120	P. K. Sah , K. B. Manandhar, K. Jha <i>On Some Applications of Metric Spaces</i>
14:30 – 14:40 ICMA 115	Abhishek Singh , Prashant Singh <i>Predictive Accuracy of Time Series and Machine Learning Models: An Application to Life Expectancy at Birth Data</i>

Session 5 (Sagarmatha Hall) <i>Chair</i> : Dr. Phanindra Bhandari <i>Technical Support</i> : Harish Chandra Bhandari	
13:00 – 13:15 ICMA 43	Phanindra Prasad Bhandari , Shree Ram Khadka <i>Application of Lex-Max Flow Problem in Vertex Restricted I-Center Problem with Fixed Demands at Prioritized Vertices</i>
13:15 – 13:30 ICMA 147	Gyan Prasad Paudel , Narayan Prasad Pahari, Sanjeev Kumar <i>Double Sequence Space of Fuzzy Real Numbers Defined by Orlicz Function</i>
13:30 – 13:45 ICMA 38	Saoudi Khaled <i>On the Existence and Asymptotic Behavior of Solutions of a Class of Reaction-Diffusion Systems with Exponential Growth Reaction</i>
13:45 – 14:00 ICMA 139	S. Sarat Singh , Oinam Zenith <i>Haskell Matrix Method in the Propagation of Love Waves in Multilayers of Magneto-Thermoelastic Materials</i>
14:00 – 14:10 ICMA 32	Poonam Singh , Pooja Maurya, Prayas Sharma <i>Addressing Non-Response and Measurement-Errors in Population Mean Estimation Using Memory Exponential Type Estimators</i>
14:10 – 14:20 ICMA 61	Harish Chandra Bhandari , Yagya Raj Pandeya, Kanhaiya Jha <i>Graph Neural Network for a Family of Weather Data Imputation</i>
14:20 – 14:30 ICMA 121	Anup Tuladhar <i>Modeling Within-Host Co-Infection Dynamics of SARS-COV-2 Infection Underlying HIV Infection</i>
14:30 – 14:40 ICMA 109	Prem Kumari Dhakal , Harsh Bahadur Chand <i>Causes of Low Enrollment and Dropout of Students in University Level Mathematics in Nepal</i>

Session 6 (Board Room) <i>Chair</i> : Dr. Hem Raj Pandey <i>Technical Support</i> : Sachin Wagley	
13:00 – 13:15 ICMA 171	Hem Raj Pandey, Ganga Ram Phaijoo, Dil Bahadur Gurung <i>Optimal Control Analysis of Dengue Disease Transmission Dynamic in Nepal</i>
13:15 – 13:30 ICMA 176	Pinakee Dey <i>Qualitative Analysis of the Soliton Solutions to the Time-Fractional Generalized Kadomtsev-Petviashvili Model</i>
13:30 – 13:45 ICMA 159	Pradeep Rai , Bhupendra Singh, Ashok Ji Gupta <i>Quantum and LCD Codes from Skew Constacyclic Codes over a General Class of Non-chain Rings</i>
13:45 – 14:00 ICMA 33	Aishwarya S. , Kedukodi Babushri Srinivas, Kuncham Syam Prasad <i>On Permutation Identities and Commutativity in Nearrings</i>
14:00 – 14:10 ICMA 62	Nandu Prasad Koiri , Ajay Kumar Chaudhary, Rajeev Kumar, K. B. Manandhar <i>Weaker Forms of Commuting Mappings in Fuzzy Metric Space</i>
14:10 – 14:20 ICMA 92	Purushottam Parajuli , Narayan Prasad Pahari <i>On Some Sequence Spaces of Bi-Complex Numbers</i>
14:20 – 14:30 ICMA 122	Sachin Wagle , Tanka Nath Dhamala <i>Multi-Commodity Flow Location Problems with Solution Strategy</i>
14:30 – 14:40 ICMA 166	Gaurav , L. P. Singh <i>Simple Waves in Two-Dimensional Magnetohydrodynamics for Anti-Van Der Waals Modified Chaplygin Gas</i>
14:40 – 15:30	Tea Break

15:30 – 17:00 **Parallel Scientific Sessions**

Session 7 (Annapurna Hall) <i>Chair:</i> Dr. Ganga Ram Phaijoo <i>Technical Support:</i> Raj Kumar Pradhan	
15:30 – 15:45 ICMA 136	Ganga Ram Phaijoo <i>Modelling Infectious Diseases: Analysing the Impact of Control Measures</i>
15:45 – 16:00 ICMA 41	Václav Mácha , Sebastian Schwarzacher <i>Global BMO Estimates for Non-Newtonian Fluids with Perfect Slip Boundary Conditions</i>
16:00 – 16:15 ICMA 94	Raj Kumar Pradhan , Samir Shrestha, Dil Bahadur Gurung <i>Mathematical Study of Impact of Non-Signalized Road Crossing on Vehicular Emissions and Fuel Consumption</i>
16:15 – 16:30 ICMA 30	Brayan F. Bullang , Imelda S. Aniversario <i>Semitotal Roman Dominating Function in Graphs</i>
16:30 – 16:40 ICMA 63	Bharat Bahadur Thapa , Ganga Ram Phaijoo, Samir Shrestha <i>Stability and Sensitivity Analysis of SEITR –SEI Model of Malaria Disease Transmission</i>
16:40 – 16:50 ICMA 101	Madhav Prasad Poudel , Narayan Prasad Pahari, Dongkyu Lim, Arjun K. Rathie <i>A Note on Evaluation of a New Class of Integrals Involving Generalized Hypergeometric Function</i>
16:50 – 17:00	

Session 8 (Sagarmatha Hall) <i>Chair:</i> Prof. Dr. Pankaj Jain <i>Technical Support:</i> Jayadev Nath	
15:30 – 15:45 ICMA 169	Pankaj Jain <i>Hausdorff and Dunkl-Hausdorff Operators on Function Spaces</i>
15:45 – 16:00 ICMA 26	Enyinnaya Ekuma-Okereke <i>Hybrid Iterative Process for Solving Nonlinear Problems: An Application in Bratu and Delay Differential Equations</i>
16:00 – 16:15 ICMA 50	Md Rashed Talukder , S.N. Begum, M. S. Bhuyan <i>Ideals and Fuzzy Ideals in Heyting Algebras</i>
16:15 – 16:30 ICMA 8	Avinash Kumar, M S Panwar <i>Sub-Distribution Hazard Modelling of Competing Risks Data with Longitudinal Measurements</i>
16:30 – 16:40 ICMA 31	Sandeep Singh <i>Recent Developments on the Non-Inner Automorphism Conjecture of Finite p-Groups</i>
16:40 – 16:50 ICMA 65	Jayadev Nath , Ishwari Jang Kunwar, Chet Raj Bhatta <i>Multi-Linear Variable Haar Multiplier</i>
16:50 – 17:00 ICMA 143	Rajendra Paudyal , Phanindra Prasad Bhandari, Shree Ram Khadka <i>On Lexicographic Network Flow Problems</i>

Session 9 (Board Room) <i>Chair:</i> Dr. Krishna Kant Parajuli <i>Technical Support:</i> Uday Kumar Karna	
15:30 – 15:45 ICMA 168	Krishna Kanta Parajuli <i>Vedic Sutra: Urdhav Tiryagbhyam</i>
15:45 – 16:00 ICMA 53	K. Somaiah , G. Rajkumar, K. Narsimha Rao <i>Analysis of Longitudinal Vibrations in a Micropolar Micro-Stretch Elastic Cylinder Under the Effect of Surface Stress</i>
16:00 – 16:15 ICMA 9	Olanegan O. O. , Adeyefa E. O. <i>Modified Hybrid Approach for Direct Integration of Third and Fourth-Order Application Problems</i>
16:15 – 16:30 ICMA 34	Ajmeera Chandulal <i>Wave Propagation in Micromorphic SH Waves in Contact</i>
16:30 – 16:40 ICMA 67	Uday Kumar Karna , Ajay Kumar Chaudhary, Chet Raj Bhatta <i>Generalization of Contraction Mapping in Metric Space</i>
16:40 – 16:50 ICMA 96	Giri Raj Paneru , Hari Nandan Nath, Tanka Nath Dhamala <i>Minimum Degradation of Demand Supply to Make Feasible Flow with Minimum Cost Flow</i>
16:50 – 17:00 ICMA 59	Gunakhar Pokharel , Phanindra Prasad Bhandari, Shree Ram Khadka <i>A Case Study on Evacuation Mitigation of Tinau Flood Victims</i>

Day 2**Saturday, December 14, 2024**05:30 – 07:45 *Excursion (Pashupati Nath Temple + Shleshmantak Forest)*07:45 – 09:00 *Breakfast*09:00 – 09:30 **Plenary Talk 2** (Annapurna Hall), Chair: Prof. Dr. Jivandhar Jnawali

ICMA 2

Prof. Dr. Andrea Braides*Homogenization of Unilateral Constraints*09:30 – 10:00 **Plenary Talk 3** (Annapurna Hall), Chair: Associate Prof. Dhana Kumari Thapa

ICMA 4

Prof. Dr. Neela Nataraj*A Unified Framework for Lowest-Order FEM for Fourth-Order Elliptic Problems*10:00 – 10:30 **Tea Break**10:30 – 12:00 **Parallel Scientific Sessions****Session 10** (Annapurna Hall) Chair: Dr. Parameshwari Kattel*Technical Support: Ganga Ram DC*10:30 – 10:45 **Parameshwari Kattel**, Shiva P. Pudasaini

ICMA 149

*Multiphase Mass Flows: Numerical Simulations and Laboratory Experiments*10:45 – 11:00 **Diddi Kumara Swamy**, Bindu Shrivani

ICMA 66

*Exponential B-spline Method for Differential Difference Equations Having Layer Behaviour with Negative Shift*11:00 – 11:15 Rajvinder Kaur, Sapna Sharma, **Avinash Chandra**, Pradeep Kumar, Dhananjay Singh

ICMA 54

*Convective Heat Transfer from a Highly Porous Obstacle Affixed to the Wall of a Rectangular Channel to Air at Low Reynolds Numbers*11:15 – 11:30 **Prayas Sharma**

ICMA 35

*Can WhatsApp Improve the Academic Performance? A Statistical Analysis*11:30 – 11:40 **Ganga Ram DC**, **Jivandhar Jnawali**, **Naveen K Vaidya**, **Kedar Nath Uprety**

ICMA 70

*Mathematical Study of the Transmission Dynamics of Lumpy Skin Disease in Karnali Province, Nepal*11:40 – 11:50 **Tara Bahadur Rana**

ICMA 22

*Quantum Continuity Equation: Implication for Bohmian Mechanics***Session 11** (Annapurna Hall) Chair: Dr. KB Manandhar*Technical Support: Ganesh Bahadur Basnet*10:30 – 10:45 **K.B. Manandhar**

ICMA 104

*Fixed Point Theory and Compatible Mappings of Type (K)*10:45 – 11:00 **Sanjay Kumar**, **Deepmala Sharma**

ICMA 69

*An Enhanced Image Encryption Technique Using Chaotic Maps and Particle Swarm Optimization*11:00 – 11:15 **Ashish Kumar**

ICMA 11

*Discrete Chaos Using Four-Step Approximation Method with Applications*11:15 – 11:30 **Sajal Haldar**

ICMA 36

*An Overview of El Dika's Proof of Asymptotic Stability of Solitary Waves for the BBM Equation*11:30 – 11:40 **Mohammad Mokaddes Ali**, Rowsanara Akhter

ICMA 77

*Magnetohydrodynamic Transient Natural Convection in Hybrid Nanofluid Filled Porous Wavy Cavity Containing Solid Obstacle*11:40 – 11:50 **Ganesh Bahadur Basnet**, Narayan Prasad Pahari

ICMA 102

*A Result on an Integral Involving Product of Two Generalized Hypergeometric Functions*11:50 – 12:00 **Molhu Prasad Jaiswal**, Narayan Prasad Pahari

ICMA 138

*Some Properties of Vector-Valued Sequence Spaces and Extension to Bi-Complex Numbers***Session 12** (Board Room) Chair: Dr. Khagendra Adhikari*Technical Support: Parshuram Chaudhary*10:30 – 10:45 **Khagendra Adhikari**, Ramesh Gautam, Anjana Pokharel, Kedar Nath Uprety, Naveen K. Vaidya

ICMA 178

*Estimating Pandemic Risks: Insights from Nepal's COVID-19 Response*10:45 – 11:00 **Saikh Shahjahan Miah**, Md. Hridoy Hasan

ICMA 73

Separation Axiom on Intuitionistic Fuzzy Pairwise Topological Space Using Intuitionistic Fuzzy Open Sets

11:00 – 11:15 ICMA 13	Vijay Kumar Bhat <i>On Some Topological Indices for the Orbit Graph of Dihedral Group</i>
11:15 – 11:30 ICMA 37	Ananta Upreti , Jivandhar Jnawali, Kedar Nath Uprety, Naveen K. Vaidya <i>Modeling of Transmission Dynamics of Dengue Infection in Kathmandu Valley, Nepal: Impact of Inadequate Waste Management</i>
11:30 – 11:40 ICMA 78	Vishalkumar J. Prajapati , Lalchand Verma, Ramakanta Meher <i>Numerical Investigation of the Fractal-Fractional Order Model for Diabetes Mellitus Considering Media-Driven Awareness Program</i>
11:40 – 11:50 ICMA 141	Parshuram Chaudhary , Dinesh Panthi, Chet Raj Bhatta, Dinesh G. Sarvate <i>Ethnomathematical Ideas in Tharu Women's Traditional Ornaments</i>
11:50 – 12:00 ICMA 153	Bishnu Prasad Chapagai , Phanindra Prasad Bhandari, Shree Ram Khadka <i>On Network Interdiction Problems</i>

12:00 – 13:00 Lunch

13:00 – 14:30 **Parallel Scientific Sessions**

Session 13 (Annapurna Hall) <i>Chair</i> : Dr. Kedar Nepal <i>Technical Support</i> : Bekha Ratna Dangol	
13:00 – 13:15 ICMA 28	Kedar Nepal , Deepak Basyal, Krishna Pokharel <i>Learning Opportunities for Solving Context-Based Calculus Tasks in Nepal's High School Mathematics Textbooks</i>
13:15 – 13:30 ICMA 76	Tangwei Liu , Keyao Li, Wanglin Ouyang, Dingding Yan, Qiong Zou <i>The Numerical Method Based on Neural Network Method for a Class of Steady-State Heat Conduction Inverse Problems on Annular Domains</i>
13:30 – 13:45 ICMA 14	Raghujyoti Kundu <i>Almost Pseudo Symmetric LP-Sasakian Manifold with Respect to General Connection</i>
13:45 – 14:00 ICMA 40	Y. N. Reddy <i>Need for Robust Numerical Methods</i>
14:00 – 14:10 ICMA 79	Ayan Mahalanobis <i>An Attack in the Elliptic Curve Discrete Logarithm Problem</i>
14:10 – 14:20 ICMA 107	Manoj Marasini , Dinesh Panthi, Krishna Kanta Parajuli <i>Learners' Reflection on Intricacies of Learning Mathematics: An Observation in Sanskrit Schools</i>
14:20 – 14:30	Pitamber Tiwari , Chet Raj Bhatta <i>Hermite-Hadamard Type Integral Inequality for Generalized Harmonically Convex Functions in Quantum Calculus</i>

Session 14 (Sagarmatha Hall) <i>Chair</i> : Dr. Ajay Kumar Chaudhary <i>Technical Support</i> : Ritu Basnet Thapa	
13:00 – 13:15 ICMA 148	Ajay Kumar Chaudhary <i>Weakly Compatible Mappings of Type (P) in Menger Space</i>
13:15 – 13:30 ICMA 15	D.T. Achaku , B. Sani <i>Capacitated Vehicle Routing Problem with Time Windows for Abuja Post Office</i>
13:30 – 13:45 ICMA 180	Rajesh Singh, Sunil Kumar Yadav <i>Construction of Almost Unbiased Estimator for Parameter β Using Auxiliary Information Under Simple Random Sampling</i>
13:45 – 14:00 ICMA 80	Shiva Hari Subedi , Russell Alpizar-Jara, Gyan Bahadur Thapa <i>Metrological and Demographic Influences on Dengue Outbreaks in Nepal: A Mathematical Study With PSO-RNN Approach</i>
14:00 – 14:10 ICMA 106	Ritu Basnet Thapa , Ram Prasad Ghimire, Sushil Ghimire <i>Performance Analysis of Finite Capacity and Multiple Server Queueing System with Maintenance</i>
14:10 – 14:20 ICMA 108	Anil Chandra Jha , Dinesh Panthi, Dinesh G. Sarvate, Shailendra Kumar Mishra <i>Hindu Mathematics in the Later Classical Period</i>
14:20 – 14:30	
Session 15 (Board Room) <i>Chair</i> : Dr. Shree Ram Khadka <i>Technical Support</i> : Resham Prasad Paudel	

13:00 – 13:15 ICMA 142	Shree Ram Khadka , Phanindra Prasad Bhandari <i>Maximum Flow Transshipment over Networks</i>
13:15 – 13:30 ICMA 16	A. K. Malik <i>Analysis of Preservation Technology based Green Supply Chain model</i>
13:30 – 13:45 ICMA 44	Nitu Kumari <i>Solving Reaction Diffusion Equation Using Transformer Based Koopman Autoencoder</i>
13:45 – 14:00 ICMA 81	Dibakar Raj Pant , Nabin Lal Shrestha <i>Image Forgery Detection Using Capsule Network Based on VGG19</i>
14:00 – 14:10 ICMA 103	Resham Prasad Paudel , Narayan Prasad Pahari <i>Few Theorems on an Extension of Bailey's Formula Involving Product of two Generalized Hypergeometric Functions</i>
14:10 – 14:20 ICMA 95	V. Raja Venkat Ram , M. Raghavender Sharma, D. Gopinath <i>Forecasting of Cognitive Neuroscience Using Machine Learning Hybrid Models</i>
14:20 – 14:30 ICMA 91	Janak Prasad Neupane , Binita Kharel <i>Effect of Using Wolfram Alpha on Students' Cognitive Engagement</i>

14:30 – 16:00	Tea Break with Poster Session
ICMA 71	Thakur Prasad Pokharel <i>The Cause and Effect between the Attitude towards Mathematics of Master Business Students and Success in Business Studies in Pokhara Valley</i>
ICMA 82	Nikita Shrestha , Ayusha Kafle, Muktinath Chaudhary, Shiva Hari Subedi, Gyan Bahadur Thapa <i>Age-Based Parameters Estimation for SIR Modelling of COVID-19 in Nepal</i>
ICMA 93	Sandesh Thakuri , Bishnu Hari Subedi, Tulasi Prasad Nepal <i>Applications of Galois Theory</i>
ICMA 100	Gaurab Chand , Shree Ram Khadka <i>Paul Erdős's Two Conjectures' Proof Progress in Hypergraphs</i>
ICMA 110	Pramila Kharel , Gunakhar Pokharel, Phanindra Prasad Bhandari, Shree Ram Khadka <i>Comprehensive Study on Particle Swarm Optimization and its Applications</i>
ICMA 117	Kedar Nath Chhatkuli , Jeevan Kafle <i>A Mathematical Modelling of Blood Flow through Artery with Bell-shaped Stenosis</i>
ICMA 127	Bikas Tamang , Bekha R. Dangol, Jeevan Kafle <i>The Influence of the Physical Parameters on the Landslide Dynamics</i>
ICMA 131	Tuk Rana , Jeevan Kafle <i>Analysis of Blood Flow Through an Overlapping Mild Stenosis</i>
ICMA 135	Bishnu Prasad Bhandari , Jeevan Kafle, Chudamani Pokharel <i>Effect of Blood Flow through Mild Stenosed Artery with Effective Viscosity</i>
ICMA 144	Biddha Pokhrel , Pushpa N Gautam, Jeevan Kafle <i>Effect of Timely Varying Curvature on Hemodynamics</i>
ICMA 145	Prem Prakash Kaphle , Narayan Prasad Pahari <i>On Certain Difference Sequence Space using Orlicz Function</i>
ICMA 146	Grishma Acharya , Prakash Shrestha, Jeevan Kafle, Sudarshan Tiwari <i>A Meshfree Arbitrary Eulerian-Lagrangian Method for Conservation Equations</i>
ICMA 155	Uttam Pokharel , Phanindra Prasad Bhandari, Shree Ram Khadka <i>On Network Facility Location Problems</i>
ICMA 162	Biswar Prasad Bhatt <i>On the Sum of Maximal Monotone Operators</i>
ICMA 163	Shanta Gautam , Keshab Prasad Adhikari <i>Redefining Human Development Measurement: A Multi-Dimensional Model for Grassroots Assessment</i>
ICMA 175	Sujan Pokhrel , Ganga Ram Phajjoo <i>Modeling COVID-19 Transmission in Nepal Using the SEIQR Framework</i>
ICMA 72	Tangwei Liu , Dingding Yan, Qiong Zou <i>A Class of Cauchy Problem for the Poisson Equation from Steady-State Heat Conduction in Multilayer Media</i>
ICMA 112	Mohammad Azharuddin Sanpui <i>Externalities in Chore Division</i>

ICMA 179	Sunil Duwadi, Jeevan Kafle, Shiva P. Pudasaini <i>Thermo-Mechanical State of Rock-Ice Avalanche: Analytical Solution</i>
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16:00 – 17:20 **Parallel Scientific Sessions**

Session 16 (Annapurna Hall) <i>Chair:</i> Dr. Jhavi Lal Ghimire <i>Technical Support:</i> Chudamani Pokharel	
16:00 – 16:15 ICMA 111	Jhavi Lal Ghimire <i>On Certain Types of Difference Sequence Spaces Defined by Orlicz Function and Ideal Convergence</i>
16:15 – 16:30 ICMA 84	B. Mallikarjuna <i>Optimising Differential Equation Solutions Using Physics-Informed Neural Networks (PINNs): A Comparative Study</i>
16:30 – 16:45 ICMA 17	Sunjay <i>Matrices Computation in Seismic Imaging</i>
16:45 – 17:00 ICMA 45	Aakansha <i>A Parameter Uniform Domain Decomposition Method for Singularly Perturbed Semilinear Coupled System</i>
17:00 – 17:10 ICMA 56	Maddileti Pasupula, M. Shiva Krishna <i>Role of Magnetic Field on Blood Flow with Suspended Silver Nanoparticles Through Stenosed Artery</i>
17:10 – 17:20 ICMA 46	Chudamani Pokharel, Pushpa Nidhi Gautam, Jeevan Kafle, Chet Raj Bhatta <i>Analysis of Hemodynamic Parameters on Twolayered Blood Flow in an Artery with Mild Stenosis</i>

Session 17 (Sagarmatha Hall) <i>Chair:</i> Dr. Pawan Shrestha <i>Technical Support:</i> Raghu Bir Bhatta	
16:00 – 16:15 ICMA 98	Pawan Shrestha, Durga Jang KC, Ramjee Sharma <i>Numerical Study of Burgers Equation and Its Application</i>
16:15 – 16:30 ICMA 97	Neeta Mazumdar, Smita Sanzgiri <i>Mathematical Model for Crimes in Goa with Some Governing Design</i>
16:30 – 16:45 ICMA 18	Debayan Koley, Abhimanyu Singh Yadav <i>Statistical Inferences for the Generalized Rayleigh Distribution Under an Adaptive Progressive First-Failure Censoring Scheme</i>
16:45 – 17:00 ICMA 39	Salah Uddin Mohammad, Durjoy Ghosh, Md. Rashed Talukder <i>A Polynomial-Time Algorithm for Constructing Nondecreasing Integer Partitions and Its Application</i>
17:00 – 17:10 ICMA 58	Beyi Boukary <i>q^2-Difference and Maliavin Calculation in the Modeling and Mathematical Analysis of Some Dermatoses: Case of Urticaria</i>
17:10 – 17:20 ICMA 74	Raghu Bir Bhatta, Samir Shrestha, Dinesh Panthi, Chet Raj Bhatta <i>Mathematical Modeling, Analysis, and Yogic Prevention of Infectious Disease Dynamics</i>

Session 18 (Board Room) <i>Chair:</i> Dr. Ramesh Gautam <i>Technical Support:</i> Shankar Pariyar	
16:00 – 16:15 ICMA 172	Ramesh Gautam <i>Modeling Malaria Transmission with Relapse Delay: Impact on Elimination Plan of Low Endemic Countries</i>
16:15 – 16:30 ICMA 99	Sabina Islam, Mahadie Hassan <i>Trend and Determinants of Fertility Dynamics in Bangladesh</i>
16:30 – 16:45 ICMA 19	Vikas Baranwal, Sanjeev K. Tomer <i>Robust Bayesian Estimation of Transition Probabilities of an Extended Illness-Death Model</i>
16:45 – 17:00 ICMA 31	Sandeep Singh <i>Recent Developments on the Non-Inner Automorphism Conjecture of Finite p-Groups</i>
17:00 – 17:10 ICMA 48	Shankar Pariyar, Bishnu Lamichhane, Jeevan Kafle <i>Numerical Solution of Advection Diffusion Equation by Using Fractional Bernstein Polynomial</i>
17:10 – 17:20 ICMA 75	M. Ali Akbar, Mominul Islam

Mathematical Analysis of the Fractional COVID-19 SEIR Model and the Impact of Fractional-Order Derivative

17:30 – 20:30 Conference Dinner

Day 3 **Sunday, December 15, 2024**

07:00 – 08:30 *Breakfast*

08:00 – 09:00 **Plenary Talk 4** (Annapurna Hall), Chair: **Prof. Dr. Gyan Bahadur Thapa**
 ICMA 05 **Prof. Dr. Asela K. Kulatunga**
Role of Industrial Mathematics Towards Sustainable Consumption and Production

09:00 – 09:30 **Plenary Talk 5** (Annapurna Hall), Chair: **Dr. Russell Alpizar-Jara**
 ICMA 03 **Prof. Dr. Dinesh G Sarvate**
Combinatorial Designs: An Introduction with Open Problems and t -group Divisible Designs

09:30 – 10:00 **Tea Break**

10:00 – 12:00 **Parallel Scientific Sessions**

Session 19 (Annapurna Hall) Chair: Dr. Samir Shrestha

Technical Support: Chet N. Tiwari

10:00 – 10:15 **Samir Shrestha**, Utsav Darlami, Asim Mahat, Unique Karki, Parash Mani Timilsina
 ICMA 140 *Genetic and PSO Algorithm for Optimization of Artificial Neural Network Modeled Multivariate Function: An Application to Lactic Acid Production*

10:15 – 10:30 **Upender Reddy Ganga**, K. Varalakshmi
 ICMA 105 *Certain Fixed-Point Theorems in G_b -Metric Space*

10:30 – 10:45 **Yajuvindra Kumar**
 ICMA 20 *The Haar Wavelet Analysis of Free Axisymmetric Vibration of Elastically Restrained FG Annular Plate Resting on Foundation*

10:45 – 11:00 **G. Upender Reddy**, Naresh Parkala
 ICMA 49 *Quadruple Fixed Points Results in Bipolar Metric Spaces*

11:00 – 11:10 **Chet N. Tiwari**, Parameshwari Kattel, Shiva P. Pudasaini
 ICMA 85 *Experimental Slowflow and Numerical Simulation of Slowflow Model*

11:10 – 11:20 **Prajwal Bir Singh Kansakar**, Bishnu Hari Subedi, Ajaya Singh
 ICMA 130 *Quasiconformal Folding Methods in Holomorphic Dynamics*

11:20 – 11:30 **Prakash Joshi**, Gokul KC, Pushpa Raj Adhikary
 ICMA 128 *Threshold-Based Hash-Based Digital Signatures in Finite Fields for Distributed Quantum-Resistant Systems*

11:30 – 11:40 **Kumar Subedi**, Dinesh Panthi, Kanhaiya Jha, Chet Raj Bhatta
 ICMA 150 *Some Common Fixed Point Theorems in Dislocated Metric Space*

Session 19 (Annapurna Hall) Chair: Dr. Gokul K.C.

Technical Support: Pushpa Nidhi Gautam

10:00 – 10:15 Gokul K.C.
 ICMA 51 *Zero Knowledge Proof in Digital Currency Security*

10:15 – 10:30 **Sanjeev Kumar**
 ICMA 114 *A Rigorous Mathematical Analysis to Explore the Density of Tumour Cells and Immune Response*

10:30 – 10:45 **Abhimanyu Singh Yadav**
 ICMA 21 *On the Estimation of Two-Parameter Inverted Kappa Distribution: Characterizations and its Application to Lifetime Data*

10:45 – 11:00 **S.N. Begum**, M. Mohiuddin, M.R. Talukder
 ICMA 52 *Lattice of Stone Ideals and \ast -Filters of a PJP-Semilattice*

11:00 – 11:10 **K. Ramesh Babu**
 ICMA 86 *Heat and Mass Transfer Effects on Non-Newtonian Nanofluid Flows*

11:10 – 11:20 **Pushpa Nidhi Gautam**, Ganga Ram Phaijoo, Parameshwari Kattel, Jeevan Kafle
 ICMA 164 *Effect of Thickness of the Stenosis: Two-Layer Model*

11:20 – 11:30 **Laxman Bahadur Kunwar**

ICMA 87	<i>Mathematical Analysis of Alcoholism as a Communicable Disease with Time Delay</i>
11:30 – 11:40	Tek B. Budhathoki, Pushkar R. Pokhrel
ICMA 165	<i>Dynamic Analysis of Mixture Mass Flow in Nepalese Supergrains</i>

11:40 – 13:00 *Lunch*

13:00 – 13:30	Closing Session (Annapurna Hall) Chair: Prof. Dr. Chet Raj Bhatta
MC: Dr. Samir Shrestha , Coordinator, Technical Committee, ICMA-2024	
Remarks by Convener: Prof. Dr. Dil B Gurung , Convener, ICMA-2024	(5 minutes)
Announcement of Best Poster Presentation: Dr. Hari Nandan Nath (Member Steering Committee, ICMA-2024)	(5 minutes)
Remarks by Speakers	(10 minutes)
Remarks: Prof. Dr. Narayan Prasad Pahari , President, Nepal Mathematical Society	(5 minutes)
Concluding Remarks: Prof. Dr. Chet Raj Bhatta , Head, Central Department of Mathematics, TU	(5 minutes)

Full Papers are requested to submit at the Journal of Nepal Mathematical Society (jnms.submission@gmail.com) for the upcoming issue in June and December 2025. Please visit the website for the journal: <https://www.journal.nms.org.np> for the template and other details.