



VIT
CHENNAI



Contributory Talks: ICNCS 2025 (Offline Mode)

DAY 01 (08 OCT, 2025)

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 01 - Venue - AB1 - 701

Session Chairs: Dr. V. Anandan, Saveetha Engineering College
Dr. Harshavarthini Shanmugam, VIT chennai

- ID:1979 **Balasubramaniam P**, Department of Mathematics, The Gandhigram Rural Institute (Deemed to be University), Gandhigram, Tamil Nadu, India
Title: *Quantum Neural Network-Driven Optimal Control of the Nonlinear Time-Fractional Schrödinger Equation*
- ID:2021 **Nanthakumar Ganesan**, Madurai Kamaraj University
Title: *Semi-Markov T-S Fuzzy time-varying Delay Systems under Uncertainties and Disturbances: Robust H_∞ Integral Fuzzy Sliding Mode Control Approach*
- ID:2024 **Selvapriya P**, Vellore Institute of Technology, Chennai
Title: *Best proximity point using proximal generalized k -Kannan mapping, and it's application in boundary value problem*
- ID:2082 **Priyadharshini R**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Unsteady Response of Blood Flow Under Body Acceleration with Different Combinations of Arterial Stenoses*
- ID:2094 **S. Rubasri**, Department of Mathematics ,Bharathiar University, Coimbatore
Title: *Synchronization of Complex Networks Under Deception Attacks Using Aperiodically Intermittent Event triggered Control and Average Delayed Impulsive Gains*

ID:2156 **Narensakthi T**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Vellore, Tamil Nadu, India
Title: *Command filter-based adaptive H_∞ asymptotic tracking of delayed networked control systems*

ID:2206 **P. Anto Vinn Christy**, Department of Mathematics, Bharathiar University, Coimbatore
Title: *Stabilization of stochastic discrete-time systems with time delay*

ID:2251 **G. Prabu**, Pachaiyappa's College, Chennai
Title: *Oscillation of Second-order Differential Equation with Several Non-monotone Advanced Arguments*

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 02 - Venue - AB1 - 702

Session Chairs: Dr. Gunasekaran, Vel Tech Engineering College
Dr. Padmaja N, VIT chennai

ID:1983 **Bourna Jothi E**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology-Chennai Campus, Chennai , Tamil Nadu, India
Title: *Exponential Stability of impulse fractional order systems with Markovian Jump Parameters*

ID:1984 **Ramalakshmi A**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology-Chennai Campus, Chennai , Tamil Nadu, India
Title: *One-Dimensional Fractional Volterra Integro-Differential Equation solving Pseudospectral Method*

ID:2017 **Priyadharshani R**, Vellore Institute of Technology Chennai
Title: *Edge-Preserving Image Enhancement Using Fractional-Order Derivative Filters*

ID:2058 **S. Sarathkumar**, PG and Research Department of Mathematics, Pachaiyappa's College, Chennai, India
Title: *Oscillation results for Second Order nonlinear Advanced Differential Equations*

ID:2063 **S. Archana**, PG and Research Department of Mathematics, Pachaiyappa's College, Chennai, India
Title: *Oscillation results for second order non-linear differential equations with non-monotone delays*

ID:2093 **P. Kowsalya**, Bharathiar University, Coimbatore
Title: *Fixed-time Synchronization of Hidden Markov Jump Inertial Reaction-Diffusion Neural Networks with Time Delay using Detector Based Boundary Control*

ID:2250 **A Vignesh**, Bharathiar university, Coimbatore
Title: *Stability and Domain of Attraction Analysis of Stochastic Nonlinear Delay Systems*

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 03 - Venue - AB1 - 708

Session Chairs: Dr. Kamalapriya, M.O.P. Vaishnav College for Women
Dr. Vijay Kumar P, VIT chennai

ID:1977 **Anthuvan Ezhilarasi P**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai, Tamil Nadu, India
Title: *Darcy–Forchheimer Casson hybrid nanofluid flow in a stenotic artery with the effects of thermophoresis and Brownian motion*

ID:1978 **Dhivya Balaraman**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai, Tamil Nadu, India
Title: *Numerical Study and Sensitivity Analysis of Casson Hybrid Nanofluid Flow in a Rotating Channel with Riga Plates*

ID:1995 **Sandeep Kumar**, Fluid Flow Systems Simulation Lab, Department of Energy Science and Engineering, Indian Institute of Technology Bombay, Mumbai, India
Title: *Linear Stability Analysis of Light-Induced Bioconvection in a Stress-Free Fluid Layer*

ID:2025 **K. Jeyashri**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Heat transfer analysis of MHD hybrid nanofluid in a porous trapezoidal cavity with heated fin*

ID:2030 **R Ruby**, SRM Institute of Science and Technology, Kattankulathur
Title: *Mixed Convective MHD Oscillatory Jeffrey Fluid Flow through Asymmetric Porous Channel: Influence of Hall Current and Lorentz force.*

ID:2039 **Nithiya V**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Numerical investigation of heat transfer inside a closed enclosure with radiation effect: A comparative study*

ID:2205 **Vijayalakshmi N**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai, Tamil Nadu, India
Title: *Viscous dissipation and Joule Heating effects on Bioconvective MHD Williamson nanofluid flow with Motile Microorganisms over an inclined stretching surface.*

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 04 - Venue - AB1 - 709

Session Chairs: Dr. Nagarajan D, Chettinad Academy Of Research And Education
Dr. Kalyan Manna, VIT chennai

ID:1988 **Vijayaprabha Saravanan**, Department of Mathematics, Vellore Institute of Technology, Chennai
Title: *Analysis of Malaria Transmission Dynamics and Cost-Effective Strategies in India and Nigeria (2018-2024)*

ID:1994 **Mohan kumar G**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology-Chennai Campus, Chennai
Title: *Gestation Delay in Predator Dynamics: A Prey–Predator Disease Model with Fear and Prey Refuge Effects*

ID:2015 **Delna Kuriyakose**, Vellore Institute of Technology, Vellore
Title: *Stochastic Modeling of EEG Microstate in Autism Spectrum Disorder Assessment*

ID:2043 **Monisha. L**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *QSPR Analysis using Degree-Based Edge Entropy Indices for Angiotensin II Receptor Blockers (ARBs) Drugs*

ID:2053 **A. Karthik**, School of Advanced Sciences, Vellore Institute of Technology, Chennai-600 127, Tamil Nadu, India
Title: *A mathematical model of chikungunya transmission with media awareness and the application of optimal control theory*

ID:2065 **Avigyan Saha**, Indian Institute of Technology Bombay
Title: *Mathematical Modelling and Bifurcation Analysis of Nonlinear Dynamics in Heterogeneous Catalysis*

ID:2166 **Kaviya K**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Deterministic and stochastic modeling of predator-prey dynamics under the combined influence of global warming, wind flow, herd behavior, moonlight, and toxicity*

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 05 - Venue - AB1 - 710

Session Chairs: Dr. S.M.A. Shahul Hameed , Ramakrishna Mission
Vivekananda College
Dr. Uma Maheswari S, VIT chennai

- ID:1973 **Ramya M**, Vellore Institute of Technology-Chennai Campus, Chennai
Title: *An Algorithm Based on Pseudospectral Method in Time and Space Direction for Hyperbolic Conservation Law*
- ID:1999 **M. Aruna Devi**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Numerical solution of Gardner's equation using Spatial-Temporal Pseudospectral Method*
- ID:2067 **Shalini K**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Gradient-Based Minimization of Fuzzy Nonlinear Function Using Fletcher-Reeves Algorithm*
- ID:2092 **Susmitha G**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Coverage-Aware Scheduling in Directional Sensor Networks Through Harris Hawks Optimization*
- ID:2095 **Raveena R**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai, India
Title: *A Novel Risk-Aware Supplier Selection Strategy for Hospital Procurement using CRITIC, PIV, and MAUT*
- ID:2109 **Afizudeen S**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *A Domination-based Anchor Node Deployment algorithm for Obstacle-Aware Wireless Sensor Network*
- ID:2148 **M Mukil**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Alleviate Latency In Electronic Trading Under Uncertainty: A Neutrosophic Fuzzy Working Vacation Queueing Model*
- ID:2210 **Chithra Selvam**, Vellore Institute of Technology, Chennai
Title: *A low-light image enhancement approach using Weber's intuitionistic fuzzy generator*

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 06 - Venue - AB1 - 711

Session Chairs: Dr. Deepa, Shiv Nadar University
Dr. Saraswathi D, VIT chennai

- ID:1955 **Arman Ahmad**, Vellore Institute of Technology, Vellore
Title: *Secure Authentication Protocol for IoT enabled WSNs Based on NTRU*
- ID:1975 **Umadevi G**, Department of Mathematics, School of Advanced Sciences,
Vellore Institute of Technology, Chennai, India
Title: *Freshness-Driven Sustainable Pharmaceutical Inventory
Optimization using DRL and Meta-Heuristics under Random Lead Time
and Emission-Aware Preservation*
- ID:2026 **Jishnu Vijay**, Department of Mathematics, School of Advanced Sciences,
Vellore Institute of Technology, Chennai
Title: *Enhanced forecasting of ocean wave parameters via wavelet
integrated ML models*
- ID:2074 **Pandiyan Rengan**, School of Electrical Engineering, Vellore Institute of
Technology, Chennai, Tamil Nadu, India.
Title: *Design of Artificial Intelligent Based Air Quality Monitoring,
Prediction and Control Using IoT*
- ID:2087 **Sophia Navis Mary. D**, Ethiraj College for women
Title: *Decode the Attention mechanism of Modern Large Language Models:
A study*
- ID:2146 **Anubhav Verma**, Department of Mathematics, School of Advanced
Sciences, Vellore Institute of Technology, Chennai
Title: *Fake news detection using Bert-Based Large language Models (LLMs):
A Comparative and Deployable Approach*
- ID:2147 **P V Akhila**, Vellore Institute of Technology, Chennai
Title: *IntelliStock: Hybrid Intelligence for Predictive Refill and Smart Shelf
Monitoring*
- ID:2207 **Mahalakshmi S**, Vellore Institute of Technology, Chennai
Title: *Deep Learning Models for Brain Tumor Classification using Magnetic
Resonance Imaging: Comprehensive Review*
- ID:2675 **Geethika P R**, Department of Mathematics, School of Advanced Sciences,
Vellore Institute of Technology, Chennai
Title: *A Graph Contrastive Learning based Graph Neural Networks Model
for Node Classification*

Contributory Talks (3:45 PM - 6:00 PM)
Panel - 07 - Venue - AB1 - 712

Session Chairs: Dr. Prakash, VIT Vellore
Dr. Saroj Kumar Dash, VIT chennai

- ID:2002 **Annal R**, Vellore Institute of Technology, Chennai
Title: *Graceful Coloring of Triangular Snake Graphs*
- ID:2013 **A. Mabel Princes**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai, Tamil Nadu, India
Title: *Odd-Sum Coloring of Ladder Graphs*
- ID:2018 **Yuvarani C**, Vellore Institute of Technology, Chennai
Title: *Local Antimagic Chromatic Number of Subclasses of Chain Bipartite Graphs*
- ID:2035 **D. Kala**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Odd-Sum Coloring for Snake Graphs*
- ID:2155 **Ragavendirane M.S**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Multi-Exposure Image Fusion Utilizing HSV, YUV Color Models in a Quintic Fuzzy Environment*
- ID:2204 **Nivedha D**, Vellore Institute of Technology, Chennai
Title: *Generalized Edge Corona of Spider Graphs are Antimagic: An Algorithmic Approach*
- ID:2212 **K H Harishna**, Vellore Institute of Technology Chennai
Title: *Optimization of Wirelength for Embedding Crossed Cubes into Necklace Graphs*
- ID:2271 **Yagavi R**, Vellore Institute of Technology, Chennai
Title: *Graph Stress Metrics and their Computational Insights*

DAY 02 (09 OCT, 2025)

Contributory Talks (3:45 PM - 5:50 PM)
Panel - 01 - Venue - AB1 - 709

Session Chairs: Dr. Vembarasan, Dr. Saravanakumar S, Shiv Nadar University,
SRM University, Kattankulathur
Dr. Ramesh Babu N, Dr. Sandip Saha, VIT chennai

- ID:1959 **R. Sukanya**, Department of Aerospace engineering, Indian Institute of Technology Madras, Chennai
Title: *Multiple scale homotopy perturbation method for non-conservative duffing oscillators*
- ID:1961 **A. Saraswathi**, Department of Physics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Soliton dynamics of coupled Schrodinger equation with third-order dispersion and nonlinearity*
- ID:1989 **Fathima Nasrin Shajahan**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Stochastic Modeling of Measles Dynamics with Nonlinear Perturbations and Discrete Markov Switching in India (2014–2024)*
- ID:2008 **Jimona J J**, SRM Institute of Science And Technology, Kattankulathur
Title: *Enhancing Digital Image Security with an Arccos Derived Chaotic Map*
- ID:2029 **J. Suganthi**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *On the Application of Haar Wavelet Method for Second-Order initial value Problems in Ordinary Differential Equations: A Comparison with Falkner-Type Method*
- ID:2062 **Divyabala K**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology-Chennai Campus, Chennai
Title: *Well-posedness and uniqueness of solutions for abstract neutral integro-differential equations with state-dependent delay and deviated argument*
- ID:2088 **Nageshwari S**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology-Chennai Campus, Chennai
Title: *Optimal feedback control for stochastic switched non-autonomous differential inclusion with deviated argument*
- ID:2098 **B. Abirami**, Department of Mathematics, Vels Institute of Science, Technology and Advanced Studies, Chennai
Title: *Fractal-Fractional Partial Differential Models for Plasma Cell Cancer Progression*
- ID:2151 **Ramya B**, SRM Institute of Science and Technology, Ramapuram, Chennai, India
Title: *Oscillation of Third-Order Composite Trinomial Delay Differential Equations*

Contributory Talks (3:45 PM - 5:50 PM)
Panel - 02 - Venue - AB1 - 710

Session Chairs: Dr. Harikumar K, Dr. Uma, Sanghamam Arts and Science College, Venkateswara Institute of Technology
Dr. Abhishek Kumar Singh, Dr. Pankaj Shukla, VIT chennai

- ID:2027 **Angel Priya E**, SRM Institute of Science and Technology, Kattankulathur
Title: *Investigation on Unsteady Dissipative MHD Oscillatory Casson Fluid Flow: Impact of Irreversibility and Entropy Generation.*
- ID:2038 **Lakshana R**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Enhanced Analysis of Skin friction and Heat transfer on MHD Burgers fluid under Fuzzified Nonlinear Radiation Effects through α -cut approach*
- ID:2040 **Pratip Dalal**, Department of Energy Science and Engineering, Indian Institute of Technology Bombay, Maharashtra, India
Title: *Slow Fast Dynamics in Formic Acid Based Electro Oxidation Reaction*
- ID:2110 **Sowmiyah. S**, B.S. Abdur Rahman Crescent Institute of Science and Technology
Title: *Comparative Analysis of Non-Newtonian Rheological Models: Power Law, Casson, Carreau, Giesekus, Oldroyd-B, Bingham Plastic, Herschel-Bulkley, and Phan-Thien–Tanner (PTT)*

Contributory Talks (3:45 PM - 5:50 PM)
Panel - 03 - Venue - AB1 - 711

Session Chairs: Dr. Purushoth Kumar, Dr. Ramakrishnan, Ambedkar College of Arts and Science, RKM Madras University
Dr. Karthik S, VIT chennai

- ID:2000 **Neelagandan P**, Vellore Institute of Technology, Chennai
Title: *Optimal Charger Deployment for Q-Coverage using Nature-Inspired Algorithms in Wireless Sensor Networks*
- ID:2001 **Sam Jeba Kumar John Jothi**, Vellore Institute of Technology, Chennai
Title: *Metaheuristic-Based Optimal Charger Placement for Q-Coverage in Wireless Sensor Networks Using a Hybrid Kookaburra-Osprey Strategy*
- ID:2009 **K. Sheela**, L. N. Government College,(Autonomous), Ponneri, Affiliated to University of Madras, Tamil Nadu, India
Title: *An Optimal EOQ Approach for Trapezoidal Demand , Weibull Distribution for Non -Instantaneous Deterioration with Shortages, Preservation and Credit Policy*

- ID:2011 **S. Yugesh**, Department of Mathematics, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam
Title: *Sampling and Reconstruction Over Subspaces of Multiply Generated Spline Spaces of Polynomial Growth*
- ID:2050 **Alyssa Dominica Sequeira**, School of Electrical Engineering, Vellore Institute of Technology, Chennai, Tamil Nadu, India
Title: *A Comparative Study on Soft Computing Approaches In V2G And G2V-Based EV Charging Systems*
- ID:2195 **J. Jansi Rani**, SRM Institute of Science and Technology, Ramapuram
Title: *Comparative Study of Ranking Techniques in Solving Pythagorean Fuzzy Transportation Models*
- ID:2256 **Carlyn Dorcas S**, Vellore Institute of Technology, Chennai
Title: *Pythagorean Fuzzy Approach for Transportation Problem Using Parametric Representation*
- ID:2265 **Priyadharshini P L**, Vellore Institute of Technology, Chennai
Title: *Hexic Fuzzy Set Approach to handle uncertainty in Multi-Criteria Decision Making Problem*

Contributory Talks (3:45 PM - 5:50 PM)
Panel - 04 - Venue - AB1 - 712

Session Chairs: Dr. Parimala M, Bannari Amman Institute of Technology
Dr. Devi Yamini S, VIT Chennai

- ID:2033 **M Paruvatha Vathana**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *Geodesic Dominated Coloring in Certain Graphs*
- ID:2034 **N. Eswar**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai
Title: *On the Locating-Domination and Locating-Total Domination Numbers of Middle Graphs of Certain Classes of Graphs*
- ID:2125 **B. Amutha**, St.Joseph's College of Engineering
Title: *An Advanced Neutrosophic Max-Min Semiring and its Aspects in Network Security*
- ID:2197 **D Laavanya**, Chennai Institute of Technology
Title: *Graceful coloring in claw-free split graphs*
- ID:2247 **Lakshmi Ramesh**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology Chennai
Title: *On the Mostar indices of the line graphs of the subdivision graphs*

- ID:2248 **Fathima Tabrez**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology Chennai, Chennai
Title: *Star Coloring of Graph Amalgamation*
- ID:2273 **Mahesh Kumar C V**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai.
Title: *Adaptive Low Light Image Enhancement using Bipolar Fuzzy Set*
- ID:2304 **Ashika T**, Department of Mathematics, School of Advanced Sciences, Vellore Institute of Technology Chennai, India
Title: *Fault Tolerant Rough Set Theory*