AMET UNIVERSITY
(Deemed to be University Under Section 3 of UGC Act 1956)

International Conference on Smart Manufacturing, Advanced Materials, and Intelligent Automation (SMAMIA) 2025, December 18-20, 2025

Organized by:

Department of Mechanical Engineering

PROGRAM SCHEDULE

Day-1 Schedule (18.12.2025)

08:30 am – 09:30 am	**Registration**			
09:30 am – 10:30 am	**Inaugural Function**			
10:30 am – 11:00 am	High Tea			
11:00 am – 11:45 pm	**Keynote Talk-1** **Professor Britta Linnea Gammelgaard** **Department of Technology and Innovation** **Professor, SDU Global Sustainable Production** **University of Southern Denmark** **Denmark**			
12:00 pm – 12:45 pm	**Keynote Talk-2** **Professor A. Senthil Kumar,** **Deputy Head (Research), Department of Mechanical Engineering, National University of Singapore, Singapore**			
12:45 pm – 13:45 pm	Lunch			
02:00 pm – 03:00 pm	Session-A1 (Artificial Intelligence & Machine Learning)	Session-B1 (Intelligent Automation)	Session-C1 (Composite Materials)	
03:15 pm – 04:15 pm	Session-A2 (Intelligent Automation)	Session-B2 (Artificial Intelligence & Machine Learning)	Session-C2 (Image Processing)	Session-D2 (Smart Manufacturing)

Day-2 Schedule (19.12.2025)

09:30 am – 10:15 am	**Keynote Talk-3** **Professor G L SAMUEL** Professor, Department of Mechanical Engineering Indian Institute of Techology Madras, Chennai-600036			
10:15 am – 11:00 am	**Keynote Talk-4** **Professor T Asokan** Professor, Department of Engineering Design, Indian Institute of Technology Madras, Chennai- 600036			
11:00 am – 11:30 am	Tea Break			
11:45 am to 12:45 pm	Session-A3 (Intelligent Automation)	Session-B3 (Intelligent Manufacturing)	Session-C3 (Composite Materials)	
12:45 pm – 01:45 pm	Lunch			
02:00 pm – 03:00 pm	Session-A4 (Material Characterization)	Session-B4 (Additive Manufacturing)	Session-C4 (Intelligent Automation)	Session-D5 (Interdisciplinary)
03:15 pm – 04:15 pm	Session-A5 (Intelligent Manufacturing)	Session-B5 (Material Characterization)	Session-C5 (Sustainable Manufacturing)	

Day-3 Schedule (20.12.2025)

09:00 am – 09:45 am	**Keynote Talk-5** **Professor S. Aravindan,** Professor, Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi, India			
09:45 am – 10:00 am	**Keynote Talk-6** **Professor I.A. Palani** Department of Mechanical Engineering, Indian Institute of Technology Indore Indore 453552, India			
10:00 am – 10:30 am	Tea Break			
10:45 am to 11:45 pm	Session-A6 (Intelligent Manufacturing)	Session-B6 (Material Characterization)	Session-C6 (MCDM & Sustainable Manufacturing)	Session-D6 (Process Optimization)
12:00 pm – 12:30 pm	Valedictory Function			
12:30 pm – 01:30 pm	Lunch			

TECHNICAL SESSIONS

International Conference on Smart Manufacturing, Advanced Materials, and Intelligent Automation (SMAMIA) 2025, December 18-20, 2025

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Session A1: Artificial Intelligence & Machine Learning

Date: 18.12.2025 **Time:**02:00 pm – 03:00 pm

Session Chairs: TBA **Location:** Janakiraman Auditorium

Paper ID	Paper Title	Presenting Author	Time
11	A Data-Driven Explainable Machine Learning Framework for Legal Alcohol Limit Prediction in Drivers	Kuppan Chetty Ramanathan	02:00 – 02:10
18	A Machine Learning Framework for Inverse Mapping Between Adhesion Force and Magnet Parameters in Ring Magnet-Based Out-Pipe Inspection Robots	Kamaleshwar / Kuppan Chetty Ramanathan	02:10 – 02:20
39	Deep Learning-Based Prediction of Solid Particle Lubricant Contamination in Spherical Roller Bearings Using Multi-Modal Sensor Fusion	Viswajith Nair	02:20 – 02:30
149	AI-POWERED REINFORCEMENT LEARNING FOR REDUCING TRAFFIC ACCIDENTS	Anuvinda N	02:30 – 02:40
144	Real-time monitoring and predictive maintenance of a gear system using machine learning	Mohit Chaudhary	02:40 – 02:50

Session B1: Intelligent Automation

Date: 18.12.2025 **Time:**02:00 pm – 03:00 pm

Session Chairs: **TBA** **Location:** AV Room, Library

Paper ID	Paper Title	Presenting Author	Time
32	Recognition of Human Activity using Wearable Sensors using Smart Convolutional Neural Networks (SCNN)	Dr. Rajalingam B	02:00 – 02:10
141	Fuzzy Logic Framework For Intrusion Detection For Enhancing Cloud Security In IoMT Networks	Subhashree A	02:10 – 02:20
175	Cluster production for mass customised manufacturing using a Convolutional Neural Network	Sudhakarapandian R	02:20 – 02:30
122	Internet of Things-Enabled AI-Based Smart Pick and Place Robotic Arm for Real-Time Color-Based Sorting in Industry 4.0 Environments	Suresh Sundaram	02:30 – 02:40
57	Privacy-Preserving Intelligent Automation in Online Voting Using Agent-Based Systems and Modified RSA Blind Signatures	Sharmila V	02:40 – 02:50
59	Intelligent Automated Retinal Image Analysis Using Tiny Vision Transformer for Diabetic Retinopathy Classification	Kowsalya R	02:50 – 03:00

Session C1: Composite Materials

Date: 18.12.2025 **Time:** 02:00 pm – 03:00 pm
Session Chairs: TBA **Location:** Pattammal Hall

Paper ID	Paper Title	Presenting Author	Time
31	Fatigue Performance of Notched A356–SiC Composite Compact Tension Specimens: Experimental And Numerical Analysis	Rakesh G	02:00 – 02:10
37	Role of Nickel Interlayer In Suppressing Brittle Intermetallic in Al–Cu Friction Welding	E.Ravikumar	02:10 – 02:20
71	Effect on the Mechanical and Tribological Properties of AA2024 Surface Composite Reinforced with TiC and Cenosphere	Shanmugasundaram Arumugam	02:20 – 02:30
73	Surface Composite of 17-4 PH Steel with Mos2 and W using Gas Tungsten Arc Processing for Augmenting the Tribological Performance	Shanmugasundaram Arumugam	02:30 – 02:40
208	Post-Processing of Thin-Wall Section of Inconel 718 Manufactured by Laser Powder Bed Fusion	Rijesh M	02:40 – 02:50

Session A2: Intelligent Automation

Date: 18.12.2025 **Time:**03:15 pm – 04:15 pm

Session Chairs: TBA **Location:** Janakiraman Auditorium

Paper ID	Paper Title	Presenting Author	Time
90	Performance-Driven Freight Integration Using Modular Vpu–Lhb Parcel Coaches In Superfast Indian Rails	Bathrinath Sankaranarayanan	03:15 – 03:25
93	FED-AutoML: A Federated Supervised Learning and Internet of Things-Sensor Fusion Framework for Intelligent Vehicle Automation and Real-Time Performance Optimization	K P Senthilkumar	03:25 – 03:35
99	Intelligent Automated Prediction of Campus Placements in Indian Higher Education using a Hybrid DCNN and Smooth SVM Mode	Sharmila v	03:35 – 03:45
104	A Comparative Review of LSTM and Random Forest for Predictive Maintenance in Aerospace Systems: Pro-posing a Hybrid Conceptual Framework	Vedhavilasini K	03:45 – 03:55
119	Computer Vision based Augmented AI technique and Edge Computing approach for robust multiscale defect detection in fused deposition modelling process	Nadheem Nassar Matara	03:55 – 04:05

Session B2: Artificial Intelligence & Machine Learning

Date: 18.12.2025 **Time:**03:15 pm – 04:15 pm

Session Chairs: TBA **Location:** AV Room, Library

Paper ID	Paper Title	Presenting Author	Time
27	Deployment of Over-the-Air Technology for Firmware Management and Enhanced Control in Internet of Things-Enabled Industrial Machinery	Bonda Atchuta Ganesh Yuvaraju	03:15 – 03:25
148	Agentic AI Integrated Deep Learning Neural Network Approach for the occurrence and classification of traffic accidents in intelligent transportation applications	denisashok ashok	03:25 – 03:35
167	Next-Generation Bio-Waste Monitoring using Binarization-Driven Clustering for Accurate Waste Object Detection	Vinoth Kumar M	03:35 – 03:45
189	An AI Augmented Federated Deep Reinforcement Learning Using Attention-Based GRU for Intrusion Detection in Wireless Sensor Networks	R SEETHARAMAN	03:45 – 03:55
191	Smart Attendance and Engagement Monitoring in Online Classrooms Using Deep Learning	Abhinav Joshi	03:55 – 04:05
56	Automated Intelligent Monitoring of Fetal Abnormalities Using BiLSTM and Internet of Things for Early Risk Detection and Mortality Prevention	E Rajkumar	04:05 – 04:15

Session C2: Image Processing

Date: 18.12.2025 **Time:**03:15 pm – 04:15 pm

Session Chairs: TBA **Location:** Pattammal Hall

Paper ID	Paper Title	Presenting Author	Time
142	OPTIMIZATION OF CRANKSHAFT FORGING YIELD THROUGH DIE DESIGN MODIFICATION AND FORMING SIMULATION STUDIES	Ganapathy Srinivasan R	03:15 – 03:25
107	Improving Medical Imaging with Quantum GANs: A Comparative Analysis	Mano Paul	03:25 – 03:35
153	Development of a Drop Test Rig for Impact Characterisation of 3D-Printed Auxetic Structures	Balaji B	03:35 – 03:45
192	Energy-Efficient Wildlife Tracking Using Splay Tree-Based Clustering and Vision-Aided Analytics	R Seetharaman	03:45 – 03:55
199	Energy-Optimized UCOSEDY Algorithm for Cloud-Based Autonomous Object Segmentation and Distance Estimation	R Seetharaman	03:55 – 04:05
135	CNC Machining vs. 3D Printing for Small Aluminium and PLA Cubes: A Comparative Study	Balaji B	04:05 – 04:15

Session D2: Smart Manufacturing

Date: 18.12.2025 **Time:**03:15 pm – 04:15 pm

Session Chairs: TBA **Location:** Mech Class Room - 1

Paper ID	Paper Title	Presenting Author	Time
133	Optimizing Wire Arc Additive Manufacturing Process Parameters to Enhance the Ultimate Tensile Strength of Stainless Steel Builds.	Arul Jeeva J	03:15 – 03:25
131	Additive Manufacturing of Inconel 625 using Design of Experiments	Ananda Natarajan V	03:25 – 03:35
204	Optimizing laser powder bed fusion parameters to produce thin-wall sections on Inconel 718 alloy	GOPINATH MAJHI	03:35 – 03:45
209	FUSED FILAMENT FABRICATION OF DENTAL CROWNS	Riya Jain	03:45 – 03:55
213	DESIGN AND DEVELOPMENT OF A BIO-INSPIRED THREE FINGER GRIPPER	Jenish aadhithiyan	03:55 – 04:05
219	Size Effects on the Mechanical Properties of Additively Manufactured Inconel Parts using Laser Powder Bed Fusion	Yathin M	0.4:05 – 04:15

Session A3: Intelligent Automation

Date: 19.12.2025 **Time:** 11:45am to 12:45pm

Session Chairs: TBA **Location:** Janakiraman Auditorium

Paper ID	Paper Title	Presenting Author	Time
156	Design And Implementation Of A Lunar Patch Antenna For Multi-Band Frequency Applications	Sugumari T	11.45 – 11:55
178	Process Parameter Optimization in Wire EDM Using Grey Relational Analysis for Stainless Steel 202	Ganesan Kanagaraj	11:55 – 12:05
181	Optimizing cold storage inventory through robotic automation	Ganesan Kanagaraj	12:05 – 12:15
164	IoT Sensor Fusion Algorithm for Real-Time Applications Using Improved Particle Swarm Optimization	G. Raghu	12:15 – 12:25
188	AI-driven Front-End Power Factor Corrected LLC Converter-based Isolated Configurable EV charger implementation by using FPGA and SiC MOSFET	Antony Sahaya Anand VICTORDHAS	12:25 – 12:35
218	PRIORITIZING ROOT CAUSES OF FIRE ACCIDENTS IN GOODS SHIFTING TRUCKS: AN ANALYSIS USING FUZZY DEMATEL	BathrinathSankaranarayanan	12:35 – 12:45

Session B3: Intelligent Manufacturing

Date: 19.12.2025 **Time:** 11:45am to 12:45pm

Session Chairs: TBA **Location:** AV Room, Library

Paper ID	Paper Title	Presenting Author	Time
82	Enhancement of Pitting Corrosion Resistance of Direct Metal Laser Deposition Fabricated SS 316L	Pratheesh Kumar S	11.45 – 11:55
88	Multi-Agent Railway Scheduling via Expert-Guided MAAC with Attention-Based Critic	Saritha Madhavan	11:55 – 12:05
92	Prioritization of Lean Tools Using a Hybrid CRITIC–CODAS Approach: A Case Study in Pump Manufacturing	Thenarasu M	12:05 – 12:15
106	Industry 4.0-Enabled Framework for Intelligent Bio-Waste Detection and Segregation Using Deep Learning and Clustering Techniques	Balamurugan Karnan	12:15 – 12:25
124	Investigation of the Mechanical and Vibration Performance of CFRP Joints with Stepped Adherends: A Comparative Study of Co-bonded and Secondary Bonded Configurations	Anbu selvan D	12:25 – 12:35
123	Bridging Tradition and Innovation: Tackling Order Fulfillment barriers in Gold Ornament Manufacturing	Bathrinath Sankaranarayanan	12:35 – 12:45

Session C3: Composite Materials

Date: 19.12.2025 **Time:** 11:45am to 12:45pm

Session Chairs: TBA **Location:** Pattammal Hall

Paper ID	Paper Title	Presenting Author	Time
183	Modal Analysis of Diffuser Casing of an Electrical Submersible Pump Using Composite Material	Dhanasekaran Arumugam	11.45 – 11:55
21	Investigations On Size Effect And Temperature On Deformation Behaviour Of Copper In Micro-Extrusion Process	Nanthakumar S	11:55 – 12:05
23	Determination of layer ignition temperature for corn and sawdust	LIONEL BENESTON S	12:05 – 12:15
68	Integrated Post-Processing Approaches for Enhanced Erosion Resistance in Direct Metal Laser Deposited AISI 316L Stainless Steel	pratheesh kumar	12:15 – 12:25
40	Multi-Criteria Scheduling in Assembly Job Shops through Integration of Multicriterial Decision Modelling and Simulation	Sudeesh S	12:25 – 12:35

Session A4: Material Characterization

Date: 19.12.2025 **Time**:02:00pm to 03:00 pm

Session Chairs: TBA **Location:** Janakiraman Auditorium

Paper ID	Paper Title	Presenting Author	Time
70	A Study on the Hardness, Wear and Aging behavior of TiC reinforced LM21.	Shanmugasundaram Arumugam	02:00 – 02:10
77	Laser Surface Micro Texturing of Nickel Based Superalloys Enhancing Corrosion Resistance, Wear Behavior and Wettability	PETER PRAKASH	02:10 – 02:20
96	Optimization of Impact Strength and Shore D Hardness in 3D printed Carbon-Fiber Reinforced PLA Composites Using a Signal-to-Noise Ratio Approach	Anis Ansari	02:20 – 02:30
84	Hot Corrosion Resistance Enhancement and its Post Processing Techniques for SS 316L Fabricated by Direct Metal Laser Deposition	Pratheesh kumar S	02:30 – 02:40
95	Evaluation of Tensile Property of Acrylonitrile Butadiene Styrene Material Produced Using Fused Deposition Modelling Process	Pratheesh Kumar S	02:40 – 02:50
9	Analysis of Stress Concentration in Steel Plate Structures Used In Ship Building	Joel Joshuva	02:50 – 03:00

Session B4: Additive Manufacturing

Date: 19.12.2025 **Time**:02:00pm to 03:00pm

Session Chairs: TBA **Location:** AV Room, Library

Paper ID	Paper Title	Presenting Author	Time
65	Real-time detection of warping using an IR transceiver during an FDM printing	Venkatesan Muniyandi	02:00 – 02:10
80	Design and Development of a Helmet on a 3D-Printing Machine Using FDM Technology with Different Infill Patterns and Layer Thickness	Pasupala raghava	02:10 – 02:20
87	Prototypical Networks For Rapid Identification Of 3d Printing Anomalies	Shivashiga A.M	02:20 – 02:30
100	Comparative Topology Optimisation of Crane Hook and Eye Bolt for Polymer Additive Manufacturing Using SolidWorks and Gekko Frameworks	Badri Narayanan	02:30 – 02:40

Session C4: Intelligent Automation

Date: 19.12.2025 **Time**:02:00pm to 03:00pm

Session Chairs: TBA **Location:** Pattammal Hall

Paper ID	Paper Title	Presenting Author	Time
165	A Cybersecurity Model for Internet of Things Devices in the Manufacturing Sec-tor: Safeguarding Industry 4.0 Infrastructure	Ragu G	02:00 – 02:10
166	Integrated WBAN–VANET–Internet of Things Framework for Smart Industry 4.0 Communication	Ragu G	02:10 – 02:20
168	Smart Irrigation with Transfer Learning for Optimized Water Management in Internet of Things-Driven Agriculture	Ezhilarasi Jegadeesan	02:20 – 02:30
170	Air pollution control and monitoring system using Internet of Things sensor network	Ezhilarasi Jegadeesan	02:30 – 02:40
173	Secure Communication Framework for Industrial Internet of Things Devices Leveraging Machine Learning and Homomorphic Encryption	Ezhilarasi Jegadeesan	02:40 – 02:50
207	Cyber Physical System and IoT-based monitoring system for enhancing VOC emission safety in FFF 3D Printing	Mahboob Durai	02:40 – 03:00

Session A5: Intelligent Manufacturing

Date: 19.12.2025 **Time**: 03:15pm to 04:15pm

Session Chairs: TBA **Location:** Janakiraman Auditorium

Paper ID	Paper Title	Presenting Author	Time
126	A Hybrid ANP–CODAS Framework for Evaluating Automation Strategies in Smart Port Operations	Bathrinath Sankaranarayanan	03:15 – 03:25
127	Market Cap – Driven Dynamics Cryptocurrency Price Predictions: A Deep Learning Perspective	Priya Jain	03:25 – 03:35
152	A Hybrid AI–Internet of Things–Cloud Framework for Enhancing Digital B2B Platforms in Industry 4.0 Manufacturing	Antony Jaya Mabel Rani	03:35 – 03:45
161	AI-Enabled Distributed Model for Internet of Things Data Management in Industry 4.0 Environments	Ragu G	03:45 – 03:55
163	Optimized Wireless Sensor Networks for Smart Agriculture with AI-Driven Crop Yield Prediction	Ragu G	03:55 – 04:05

Session B5: Material Characterization

Date: 19.12.2025 **Time**: 03:15pm to 04:15pm

Session Chairs: TBA **Location:** AV Room, Library

Paper ID	Paper Title	Presenting Author	Time
105	Mechanical Characterization of 3D-Printed Nylon-Carbon Composites: Effects of Infill Pattern and Density	Joby George	03:15 – 03:25
109	Graphene Oxide–Based Hybrid Thermal Interface Material for Efficient and Affordable Electronic Cooling	Bakhirathan Asokan	03:25 – 03:35
111	Effect of Nano TiO2 flux on ATIG welding of SA516 Grade 70 Carbon Steel	Rakesh N	03:35 – 03:45
137	EXPERIMENTAL ANALYSIS OF GRINDING WHEEL PERFORMANCE USING GRAPHITE LUBRICATION FOR ENHANCED STRENGTH AND EFFICIENCY	Selvam M	03:45 – 03:55
195	Effect of Fiber Orientation, Particle Size, and Weight Fraction on the Performance of Jute Fiber–Alumina Epoxy Composites	R.Mowlishwaran	03:55 – 04:05

Session C5: Sustainable Manufacturing

Date: 19.12.2025 **Time**: 03:15pm to 04:15pm

Session Chairs: TBA **Location:** Pattammal Hall

Paper ID	Paper Title	Presenting Author	Time
28	Analyzing the barriers involved in the elimination of waste in tyre manufacturing companies using soft computing techniques	Bathrinath Sankaranarayanan	03:15 – 03:25
61	Barriers to the Integration of Industry 4.0 and Lean Six Sigma in Indian Smart Manufacturing Industry: A Fuzzy MICMAC-Based Structural Analysis	Bathrinath Sankaranarayanan	03:25 – 03:35
62	ANALYSING THE SUSTAINABILITY BARRIERS IN INDIAN DAIRY FARMING FOR SMART MANUFACTURING TRANSITION	Bathrinath Sankaranarayanan	03:35 – 03:45
64	A Sustainability-Oriented BWM–TOPSIS Framework for Prioritizing Key Factors in Smart Manufacturing Transition: Evidence from the Chemical Industry	Bathrinath Sankaranarayanan	03:45 – 03:55

Session A6: Intelligent Manufacturing and Material Characterization
Session D5: Interdisciplinary

Date: 19.12.2025 **Time**: 02:00pm to 4:00pm

Session Chairs: TBA **Location:** IT Lab

Paper ID	Paper Title	Presenting Author	Time
143	CORSARL: Cooperative Reinforcement Learning For Selective Attack Recovery and Congestion Reduction in Dense WSNS	Bindia Venugopal	02:00 – 02:10
139	Secure Hybrid Intrusion Elimination for Learning-Driven Detection of Zero-Day Attacks (SHIELD-Z) in VANET	Swapna Nair	02:10 – 02:20
206	Barriers and Improvement Strategies for Remanufacturing of Automotive Components in China: An Integrated Analysis Based on the BWM-LCM Framework	Mukund Janardhanan	02:20 – 02:30
196	Resilient Production with PRISM: An AI-Enhanced Scheduling Platform for Dynamic Reconfiguration	Mukund Janardhanan	02:30 – 02:40
197	Evaluating Collection Strategies for Reverse Logistics in Metal Remanufacturing: Hybrid BWM-TOPSIS Method	Bo Tian	02:40 – 02:50
TEA BREAK			
150	SOCPRIS: A Social Sentiment Prism for Real-Time Detection of Micro Influence Cascades In Digital Communities	Aiswarya Rajan K K	03:00 – 03:10
130	A Comparative Analysis of Single and Stacked Machine Learning Models for Battery Life Estimation	Swarnajit Roy	03:10 – 03:20
140	Compressed Video Action Recognition Across Various Codecs	Suganiya M	03:20 – 03:30
157	Optimal path planning of Mobile robot using Hybrid Genetic and Particle Swarm Optimization Algorithm (HGAPSO)	Ganesan Kanagaraj	03:30 – 03:40
158	OPTIMAL SERVO TUNING OF LINEAR MOTION SYSTEM USING PARTICLE SWARM OPTIMIZATION	Ganesan Kanagaraj	03:40 – 03:50

Date: 20.12.2025 **Time**:10:45 am to 11:45am

Session Chairs: TBA **Location:** Janakiraman Auditorium

Paper ID	Paper Title	Presenting Author	Time
138	Tribological enhancement by Laser Surface Texturing (LST) of UHMWPE for Orthopaedic applications	Anandha Praba R	10.45 – 10:55
147	Soft Computing-Based Machinability Studies on Super Duplex Stainless Steel to Implement Smart Manufacturing	Saravanamurugan S	10:55 – 11:05
151	Tribological Feasibility Validation of Mg AZ31B for Orthopedic Prosthesis Applications	Rohith Ram	11:05 – 11:15
174	Energy-Efficient Internet of Things-Based Monitoring in Smart Manufacturing Using Wireless Sensor Networks	Udit Tripathi	11:15 – 11:25
103	Application of Grey Relational Analysis for Optimizing Weld Bead Geometry Parameters in Shielded Metal Arc Welding	Ravikumar S M	11:25 – 11:35
132	Collaborative Assembly Approach Using Flatworm Algorithm: An Experimental Validation	Bala Murali Gunji	11:35 – 11:45

Session B6: Process Optimization

Date: 20.12.2025 **Time**:10:45am to 11:45am

Session Chairs: TBA **Location:** Mech Class Room - 1

Paper ID	Paper Title	Presenting Author	Time
63	Identification and Prioritization of Critical Success Factors for Industry 4.0 Adoption in Indian Process Industries: A ISM Approach	Dharmendra Singh	10.45 – 10:55
76	Synergistic Effects of Tool Geometry, Toolpath Strategy, and Process Parameters in Single Point Incremental Forming of Inconel 625	Pratheesh Kumar S	10:55 – 11:05
85	Application of Lean tools for Process Enhancement and Lead Time Reduction in Control Valve Manufacturing – A Case Study in the Pneumatic Industry	Pratheesh Kumar S	11:05 – 11:15
94	Internet of Things Based Monitoring System for Incremental Sheet Metal Forming Process	Pratheesh Kumar S	11:15 – 11:25
98	A Study of Tensile Strength in Specimens Produced Using MJF and SLS Techniques	Pratheesh Kumar S	11:25 – 11:35

Session C6: MCDM & Sustainable Manufacturing

Date: 20.12.2025 **Time**: 10:45am to 11:45am

Session Chairs: TBA **Location:** Pattammal Hall

Paper ID	Paper Title	Presenting Author	Time
72	Design and Analysis of a 180-Degree Reclining Ergonomic Office Chair with USB Charging	Sivakumar Giridharan	10.45 – 10:55
89	Enabling Sustainability in the Indian Textile Industry through Smart Manufacturing Technologies: An Industry 4.0 Perspective	Bathrinath Sankaranarayanan	10:55 – 11:05
125	A FUCOM–VIKOR-Based Decision Framework for Evaluating Sustainable Smart Manufacturing Alternatives Integrating Robotics and Flexibility	Bathrinath Sankaranarayanan	11:05 – 11:15
128	Identifying Key Challenges in Reducing CO_2 Emissions in the Construction Sector: A Fuzzy DEMATEL Approach	Bathrinath Sankaranarayanan	11:15 – 11:25
176	Smart Reuse Strategies for Bioplastic Regranulates in Additive Manufacturing: A Sustainable FDM Framework	G G.Suresh	11:25 – 11:35

Session D6: Process Optimization

Date: 20.12.2025 **Time**: 10:45am to 11:45am

Session Chairs: TBA **Location:** AV Room, Library

Paper ID	Paper Title	Presenting Author	Time
136	Comparative analysis of wire arc additive manufactured and traditional processed electrodes in electrical discharge machining of 316L-SS.	Shanmugasundaram Arumugam	10.45 – 10:55
177	Investigation of the Mechanical and Vibration Performance of CFRP Joints with Stepped Adherends: A Comparative Study of Co-bonded and Secondary Bonded Configurations	Anbu selvan D	10:55 – 11:05
162	Deep Reinforcement Learning-Driven Predictive Maintenance Framework for Intelligent and Resilient Smart Manufacturing Systems	Ragu G	11:05 – 11:15
180	Advanced Manufacturing Data Warehouse: An Integrated Approach for Process Optimization	Anupam Bandyopadhyay	11:15 – 11:25
155	Fractional Hopf Oscillator Networks for Resilient Scheduling in Smart Manufacturing Systems	Devasmito DAS	11:25 – 11:35
30	Modification in microstructure and mechanical properties of aluminium metal matrix composites through multipass friction stir processing	Abdul Jabbar Ansari	11:35 – 11:45