

SSDM INDIA 2025 CONFERENCE										
			MR 1.05 (1st Floor)			MR 1.06 (1st Floor)				
Date	Session	Time	Sub Track	Paper No.	Title	Sub Track	Paper No.	Title		
Day 1: 11 September 2025	Session 1	8:30-8:40	SSDM1	Welcome Address by Dr Kishora Shetty (Track Chair)		SSDM2	Welcome Address in MR 1.05			
		8:40-9:00		159868	Unsupervised Learning Using Convolutional Autoencoder for Looseening Detection With Lamb Waves in Bolted Aluminum Lap Joint		158319	Load Estimation With Error Bound for Insufficiently Instrumented Component From Vibration Test		
		9:00-9:20		159189	Nonlinear Vibration and Bending Behaviour of Double and Cross Helicoidal Bioinspired Laminated Composite Structures		156290	Modeling Degradation of Elastomer Mechanical Properties Under Vibratory Loads and Validation Against Experimental Data		
		9:20-9:40		159197	Design and Structural Analysis of Aerator Component Subjected to Heaving Motion Using Coupled Eulerian-Lagrangian Method		159055	A Systematic Approach to Resolve the Vibration(s) Occurring on Non-Rotational Bearings of Wind Energy Gearboxes During Transit: Vibrations During Transit		
		9:40-10:00		159669	Design of Torsion Loading Device for Testing of Jet Vane Linkage Used for Thrust Vector Control		159181	Free Vibration and Dynamic Response Analysis of Functionally Graded Plates Using Higher-Order Shear Deformation Theory		
		10:00-10:20		159736	Design Validation of Ceramic Radome Subjected to Combined Thermal and Structural Loads		160999	Electromechanical Decoding for Metal Structure Using Piezoelectric Effect		
	Common Plenary Sessions & Lunch									
	Session 2	2:10-2:30	SSDM1	159196	On the Acoustic Behavior and Dynamic Characteristics of Novel Hybrid Sandwich Panel: Role of Infill Density	SSDM2	159304	Aeroelasticity of Metamaterial Aerofoil		
		2:30-2:50		159303	Gear Fault Diagnosis Based on Triboelectric Nanogenerators and Convolutional Neural Network		-	-		
		2:50-3:10		159664	Nature-Inspired Herringbone Groove Textures: Enhancing the Static and Dynamic Performance of Gas Foil Journal Bearings for Turbomachinery Applications		159880	Aeroelasticity of Smart Wings		
		3:10-3:30		159922	Asymmetry of the Stress Tensor in Dynamic Structural Analysis		161192	Prediction of Aeroelastic Flutter Stability in a Fighter Aircraft During Wake Penetration Flight Testing Using Autoregressive Model		
		3:30-3:50		160027	Boundary Force and Body Force Methods for Stress Analysis of Plate With a Hole		159606	Influence of Straight Radial Groove Texture on the Performance of Gas Foil Thrust Bearings With and Without Slip Flow		
	Coffee Break									
	Session 3	4:30-4:50	SSDM India 2025 Keynote				SSDM2			
			Mr. Jaya Raju Namala (Tech Ref Comm Leader, AIRBUS India)							
		4:50-5:10	SSDM1	161611	Numerical Simulation of Bio-Mechanical Stress at the Eyelid-Contact Lens Interface	159188		Wave Propagation and Bandgap Tuning in 1D Triatomic Spring Mass System		
5:10-5:30		160125		Effect of Rivet Arrangements on the Repair Efficiency of Patch Repaired Metallic Panels: A Numerical Study	159277	An Experimental Study on the Performance of a Three-Phase Laminated Viscoelastic Composite Layer in the Constrained Layer Damping Treatment				
5:30-5:50		160637		AI-Driven Structural Optimization of UAV Wings Through a Multi-Physics Approach	159451	Morphing Dynamics of a Flexible Telescopic Beam				
5:50-6:10		160832		Fixed Wing UAV Winglet Optimization Through AI-Integrated Aerodynamic Simulations With Multi-Physics Approach	159779	Component Level Dynamic Model Correlation Using Strain Energy Based Approach				
6:10-6:30		161239		Digital Twin for Health Monitoring of Plate Structures Using Lamb Waves and Convolutional Autoencoder	159675	Energy Dissipation in SMA-Based Structures Considering Material Level Coupling and Large Deformation				

MR 1.05 (1st Floor)					MR 1.06 (1st Floor)					MR 1.04 (1st Floor)					MR 1.02 (1st Floor)				
Date	Session	Time	Sub Track	Paper No.	Title	Sub Track	Paper No.	Title											
Day 2: 12 September 2025	Session 1	8:40-9:00	SSDM2	159312	Development of a 1-3 Viscoelastic Composite Damping Layer for Constrained Layer Damping Treatment: Vibration Experiments and Finite Element Modeling	SSDM3	158450	Biodegradable Materials for Sandwiched Roofs: Coir											
		9:00-9:20		159841	Effect of Stiffeners on the Beam Mode Vibration of Cylindrical Shells		160028	Investigation of the Impact of Buried Oxide Layer in UID Layer and Channel Region on the Breakdown Voltage and the Threshold Voltage of B-Gallium Oxide Based Power FETs											
		9:20-9:40		159881	Ride Comfort Analysis and Biodynamic Response of Unicycle Rider Under Whole Body Vibrations		160234	High Cycle Fatigue Life Prediction of Dual-Phase Steel Under Strain Path Changes: A Machine Learning Approach											
		9:40-10:00		160142	Higher Order XFEM Approach for Free Vibration Analysis of Cracked Composite Plates		160280	Alternate Sandwich Core Material Evaluation for Wind Turbine Blade Application											
		10:00-10:20		161719	Low Velocity Impact Analysis of Carbon/Epoxy Composite Laminates With Undirectional and Bidirectional Fiber Orientations		160562	Non-Destructive Grain Size Prediction Using Ultrasonic Wave Responses and Deep Learning											
				159865	Finite Element Analysis of Adhesive Peel Test in Sterile Dressing														
	Common Plenary Sessions & Lunch																		
	Session 2	2:10-2:30	SSDM2	159825	Prediction of Dynamic Landing Loads and Responses During Arrested Landing of a Typical Naval Fighter	SSDM3	159300	Mechanical Behavior of Additive Manufactured Polymeric TPMS Structures: A Qualitative Assessment	SSDM1	159765	The Behaviour of Composite Tubular Structures Reinforced With Foam Under Axial Compressive Loading								
		2:30-2:50		160953	Alleviation of Shimmy in a Typical Fighter Aircraft		168394	Effect of Melt Pool Boundaries on Specimen Size Effect of Am 5c316		159829	Structural Analysis Methodology of Hyper Elastic Materials and its Application								
		2:50-3:10		161281	Design of Mounting Bracket for Avionics Units of High Speed Research Vehicle		159711	Synergistic and Antagonistic Effects of Gamma and UV Post Processing Treatments on 3D Objects Printed via Masked Stereolithography		159857	In-Plane Impact Behaviour of Windmill-Shaped Acoustic Plate Structure								
		3:10-3:30		161426	Sound Radiation Analysis of a Sandwich Plate With Different Fiber-Reinforced Composites		159561	Coupled Effects of CNT Aggregation, Interfaces, and Temperature on the Elastic Behavior of Nanocomposites Via a Micro-Mechanics Approach		160102	Modelling and Structural Analysis of Axial Compressor Blade for Gas Turbine Engine								
		3:30-3:50		161510	Parametric Study of Nonlinear Wave Propagation in Timoshenko Beam		159808	Feasibility of Friction Stir & Laser Beam Welding Methods in Integral Stiffened Panels for Next-Generation Thermoplastic Fuselage Structures		161036	Finite Element Analysis Approach to Simulate Flight Deck Penetration Protection Requirements								
	Coffee Break																		
	Session 3	4:40-5:00	SSDM2	160395	Control of Edgewise Vibration of Wind Turbine Blade Using Time-Varying Internal Tensile Force	SSDM3	159994	Elastomers in Aerospace Applications: Enhancing Performance and Safety	SSDM1	160305	Exploring new Frontier: Advanced Composites in Modern Combat Aircraft, Enhancing Structure Integrity and performance	SSDM1	159047	Non-Destructive Methods for Buckling Load Prediction of Structures					
		5:00-5:20		160937	Investigation on the Vibration Attenuation Properties of Carbon Black-Filled Nitrile Elastomer Composites for Active Constrained Layer Damping		158315	A Review on Nanomaterial-Based Coatings for Aircraft Windshield Protection From Unauthorized Laser Illumination Events		160368	Impact Response of Variable Fibre Spacing Composite Panel With Various Spatial Distribution Function		159564	Design Criterion of Multilayered Fiber Metal Laminate Structures for Shock Wave Attenuation					
		5:20-5:40		161285	Buckling and Vibrational Analysis of a Thin Tapered Micro-Plate Under Thermal Environment		160097	Modeling and Multi-Disciplinary Analysis of Aero Engine Turbine Blade		160693	Progressive Damage Modeling of Open-Hole Composite Laminate		159737	Design Study of Camber Morphing Wing With Aerodynamic Sliding Skin					
		5:40-6:00		161490	Vibration Test Spectrum Generation for LRU Lifespan Qualification in Military Helicopter		159755	Impact of Graphene Based Additive on the Coking Characteristics of Aviation Lubricants		161240	A Numerical Approach Based Study on Structural Response of Composite Sandwich Structure Under Repeated Low-Velocity Impact		161263	Structural Reliability Analysis Using Quantum Computers: An Application to Space Trusses					
		6:00-6:20		161570	Performance of Low Frequency Isolation System to Attenuate Random Vibration on Satellite During Transportation		160852	Systematic Appraisal of Mechanical Loading Characteristics of Nylon 12: Processed in Fused Deposition Modelling at Different Raster Angles		159540	Innovative Design of Aircraft Wing Panels Using Generative AI		161623	Non-Linear Static and Frequency Analysis of Metal Foam Plate Using Isogeometric Analysis					

MR 1.05 (1st Floor)					MR 1.06 (1st Floor)			MR 1.05 (1st Floor)			MR 2.01 (2nd Floor)			
Date	Session	Time	Sub Track	Paper No.	Title	Sub Track	Paper No.	Title	Sub Track	Paper No.	Title	Sub Track	Paper No.	Title
Day 3, 13 September 2025	Session 1	8:40-9:00	SSDM2	160764	An Effective Approach to Reduce Tire Cavity Resonance Through Acoustic Linings	SSDM3	159714	Digital Image Correlation for Failure Analysis and Mechanical Characterization of Banana Fiber Hybrid Composites	SSDM1	160310	Improved Approach for Stationwise Distribution of Aircraft Mass	SSDM1	159751	Advancing Nacelle Fan Cow Design With Thermoplastics for Aerospace Applications
		9:00-9:20		160796	Conical Metastucture With Curved Beam Resonators: Studying the Bragg Scattering and Local Resonance Phenomenon		159775	Effect of Random Interface Properties on Mechanical Properties of Regular Staggered Composites Using Physics Informed Neural Networks		160436	Design of Cellular Frames at Aircraft Landing Gear Structure Interface for Enhancing the Energy Absorption During High Impact Loads		160900	Combined Effect of Initial Misalignment and Deviation on the Buckling Load of Single Stage Hydraulic Cylinder
		9:20-9:40		161027	Analysis of Cornering Stability in Motorcycle Using Gyroscope		159810	A Case Study on Effect of Failure Modes on the Mechanical Properties of Bio-Inspired Staggered Composites		161280	Damage Tolerant Assessment of Stiffened Skin Panel of an Aircraft Structure Subjected to Fatigue Load Spectrum		160886	Advanced Penalty-Based Finite Element Method for Nonlinear Bending of Functionally Graded Plates Utilizing Non-Polynomial Shear Deformation Theory
		9:40-10:00		161028	Accuracy Enhancement of Mechanical Analysis of Multilayer Printed Circuit Board Using Trace Mapping Approach		161518	Strain Energy Based Fatigue Life Prediction of Unidirectional Composite Laminate		161294	S-N Curve Prediction of Aircraft Materials for Various Stress Ratios Using Artificial Intelligence		161185	A Parametric Study of Contact Area and Pressure on a Sphere Pressed Against Flat Surface and Grooved and Un-Grooved Curved Surfaces
		10:00-10:20		161061	Localization of Low-Velocity Impact Damages in Composite Using Root Mean Square Feature and Artificial Neural Network		163692	Behavior of Composite Structures Operating in Elevated Thermal and Moisture Environments – a Comprehensive Review		160939	Parametric Study of Fastener Countersinking on Structural Strength and Aerodynamics Behavior of Structural Joint		161348	Optimization of Support Structure for Gear Box and Motor in the Large Diameter Inflatable Seal Test Rig
	Common Lunch													
	Session 2	11:10-11:30	SSDM2	161077	Numerical Study of Influence of Core Grid Size on the Blast Performance of Honeycomb Sandwich Panels	SSDM3	160997	Meshfree Method for Static Analysis of Timoshenko Nano Beam Using Strain-Driven Nonlocal Model	SSDM1	159988	Design and Study of Morphing Aircraft Flaps Using Metamaterial-Based Chiral Honeycomb Structures and Piezoelectric Actuators for Adaptive Flight Control	SSDM1	159941	Development of Pim System for Aircraft Structure Components
		11:30-11:50		161243	Dynamic Analysis of Spur Gear Systems Incorporating Shaft Flexibility and Nonlinear Effects		161297	Dry Sliding Wear Resistance of HVDF Sprayed Iron-Based Composite Coatings Alloyed With Carbides Across Various Temperatures		160521	A Vibration-Based Fatigue Assessment of Aircraft Brackets Under Complex Loading Environment		161404	Multi-Plate Joint Modelling for GFEM and IFEM
		11:50-12:10		161390	Multibody Analysis for Ride Comfort of Motorcycle		162227	Industry Experience on Supercritical CO2 Systems Integrity Nuggets for Material Selection		159698	Innovative Automation of Landing Gear Using Programmable Logic Controllers		160602	Carbon Footprint, Cost and Weight Reduction Through Topology Optimization of Turbomachinery Product
		12:10-12:30		161501	Brush Tyre Model With Visco-Elastic Bristle Interaction		159227	Mechanistic Insights & Correlation Between Cold-Spray Deposition and Particle Deformation Using Laser-Induced Particle Impact Test		160409	Accelerated Airfoil Design Using Neural Network Approaches		161191	Experimental Method of Topology Optimization
		12:30-12:50		161620	Computational Analysis of Tuned Mass Dampers for Time-Varying Nonlinear Systems: A Comparative Study With Linear Behavior		159546	A Numerical Framework Using Desl. It to Solve Boundary Value Problems of Viscoelastic Materials		159151	Foresight for Aviation Structural Health Monitoring		160069	Screw bone interface strength using finite element analysis and design of experiment techniques
	Coffee Break													
	Session 3	2:10-2:30	SSDM2	161254	Wave Propagation Through One-Dimensional Periodic Planar Tensegrity Structure	SSDM3	161000	Effect of Microstructure on High-Strain Rate Behavior of Ultra-High-Strength-Steel	SSDM1	160929	Influence of Geometry and Loading on Interlaminar Connections in Nature-Inspired Composites	SSDM1	160774	An Adaptive Localizing Gradient Damage Framework for Thermo-Mechanical Fracture Problems
		2:30-2:50		161345	Estimating Debris Depth of Avalanches Using Three-Dimensional Computational Fluid Dynamics Simulations		159348	Optimization of Injector Geometry for Enhanced Fuel-Air Mixing With Nanomaterial-Infused Fuels in Crossflow		160985	Influence of Fiber Density Variations on the Stochastic Thermal Buckling Behavior of Defected Variable Fiber Spacing Composite Laminates		161556	The Impact of Axial and Bending Loads on Effective Compositional Stress at the Fillet Weld Toe
		2:50-3:10		162143	Dynamic Analysis of Spur Gear Systems Incorporating Shaft Flexibility and Nonlinear Effects		161830	Artificial Neural Network (ANN), Tree and Ensemble-Based Regressors To Predict Residual Strength and Stiffness of Hygrothermally Aged UD CFRP Laminates Using Moisture Saturation Content As a Feature		161104	Free Vibration Analysis of Cylindrical Laminated Composite Shells Using Carrera Unified Formulation			
		3:10-3:30		160970	Parametric Optimization of Bio-Inspired Structure Integrated With Quasi-Zero Stiffness Vibration Isolation System		159679	Effect of Machining-Induced Defect on the Failure Behavior of C/Frc Composite		161142	Lamb Wave-Based Automated Feature Extraction and Machine Learning for Diabond Detection in Stiffened Aluminum Panels			
		3:30-3:50		159583	Comprehensive Study of Aeroelasticity in Composite Structures Integrating Experimental, Numerical, and Deep Learning Models		159856	Coupled Thermo-Mechanical Modeling of High-Velocity Impact Damage at Microscale Using Explicit Phase Field Approach		161186	Review of Aerospace Structural Health Monitoring Systems With Special Emphasis on Ultrasonic Techniques and Neural Networks			