

Ansys
LS-DYNA
USER CONFERENCE 2024

Day 1: Tuesday, October 22nd						
Exhibits Open & Breakfast						
The Grand Gallery						
Engineering the Road Ahead with Simulation						
The Grand Ballroom Ansys						
Pushing the Performance Limits: How Ansys powers Oracle Red Bull Racing's Competitive Edge						
The Grand Ballroom Oracle Red Bull Racing						
Safety Simulation Enhancement Using AI						
The Grand Ballroom Oracle						
GHBC and the Applications of GHBC Models						
The Grand Ballroom General Motors						
AM Break Served On All Floors						
Tracks	Cockpit Grand Ballroom	Occupant and Pedestrian Safety I Principal Ballroom	Simulation Methods I Miscellaneous Ballroom	Forming I Drawing Room		
10:45 AM - 11:10 AM	Virtual Validation of Seat Integrity in a Full Size SUV for Front Crash General Motors	Development of Human Body Model (HBM) CI and Acceleration Posturing Tool (APT-CI) for Virtual Testing and Product Development Humanteq	Application of Machine Learning techniques to incorporate manufacturing and Testing variation for Robust B/W design for Crash performance Ansys	Stamping Simulation Automation in LS-PrePost General Motors		
11:10 AM - 11:35 AM	Introducing i-SimRoad, A New Reduction Modelling Tool for Vehicle Crash Simulation JSCC	Preliminary Validation of New Continuum Particle Gas (CPG) Method for Airbag Deployment Simulation JSCC	Simulating Soldier Joint Shapes Post Follow in Flip Chip Ball Grid Array Packages using (DRC - part 1) Ansys	Highly Automated Springback Compensation of the Draw Die Ansys		
11:35 AM - 12:00 PM	Virtual validation of HBT identification of key parameters to achieve EC 2.2.2016/2021 requirements Marell Europe	Utilizing a validated laminated glass model to simulate pedestrian head impact on a windshield Ansys	Simulating Soldier Joint Shapes Post Follow in Flip Chip Ball Grid Array Packages using (DRC - part 1) ANSYS	Hot Forming Simulation with Ansys Forming and LS-DYNA Postprocessor Ansys		
12:00 PM - 1:15 PM	General Lunch Garden Gallery					
Advancements in Sustainable HPC Solutions for Ansys Applications (Promotional Lunch hosted by HPE AMG) The Ansys Case Studies in Solving High-Performance Computing (HPC) and AI/ML for Digital Transformation (Operational Lunch by HPE/AMG) Garden Pavilion						
Tracks	Material and Constitutive Modeling I Grand Ballroom	Human Body Models Principal Ballroom	Aerospace Structure Impact & Dynamics I Miscellaneous Ballroom	SDM Drawing Room		
1:15 PM - 1:40 PM	Some well characterized and FEA modeling method development for automotive applications General Motors	Emergency Brake Positioning and Injury Risk Prediction for Aircraft Occupants under Impact Loading Ansys	Computational modeling of resin/cut up/High modulus bars with carbon carbon composites using continuum and meso-scale models Southwest Research Institute	An Application of Shape Sensitivity Recognition Using FEA based Dimensional Compression JSCC		
1:40 PM - 2:05 PM	From Test to Calibrated Material Card using an augmented Workflow: A Case Study with Industrial Materials for Aerospace and Automotive Applications CFEWS	Introducing HBM in Safety Simulations, Bi-Phase modeling, and post-processing with ANSA and MSC/ETA ETA	Adaptive FEM-SPH Numerical Models of CFSP Composite Materials under Impervious Impacts University of Windsor	Facilitating Virtual Testing at an Industrial Level by Simulation-Driven Management SCALE		
2:05 PM - 2:30 PM	Polymer Material Calibration for MAT_234 and MAT_244 (COP) with strain-rate and damage modeling using AI-powered flows in CFEWS JSCC	ANSYS meets the CMC software Working with HBM in General and Aerospace JSCC	Build for the Resistance of Thermoplastic Composite Panels: Experimental and Numerical Analysis Ansys	Template-driven management of model and loadcase variants for LS-DYNA simulations JSCC		
2:30 PM - 2:55 PM	Recent advancements in material models DYNmore	Human Body Model Enhancements DYNmore	Preval of rotorcraft blade for impact simulation AUST-AGARD	Manage multi-disciplinary load cases in SDM model setup and evaluation of results SCALE		
2:55 PM - 3:10 PM	PM Break Served On All Floors					
Tracks	Battery/Electric Vehicle Grand Ballroom	Machine Learning Principal Ballroom	Simulation Methods II Miscellaneous Ballroom	Multiphysics Modeling Drawing Room		
3:10 PM - 3:35 PM	Advancing Battery Safety Through Multi-Physics Modeling From Experimental Data to Reduced Simulation Models 4A Engineering	Topology Optimization for Casing Casting Design in Automotive Battery Units, LS-HAC, LS-DYNA, Ansys	Certification by Analysis: A Discussion of solver requirements for LS-HAC, LS-DYNA, Ansys	Modeling the Stochastic Phenomena of F using LS-DYNA Ansys		
3:35 PM - 4:00 PM	Coherent Mechanical-Electrical Thermal Behavior of Batteries: Experimental and Numerical Analysis University of Alabama	Parameter ROM technology for fast optimization of CRP Problems CFEWS	Fluid Spill Behavior for Crashworthiness - A Modeling Approach Validated With Experimental Data JSCC	Simulating Safe Landing - A Deep Dive into Pre-Flight Validation and Flight with LS-DYNA CFEWS/Ansys		
4:00 PM - 4:25 PM	Modeling Battery Safety under Penetration Loads Using LS-DYNA Ansys	From automatic event detection to automatic case conversion Sintax	Modular Contact: A new approach to contact in LS-DYNA Ansys	Enhancing FSI Simulations in LS-DYNA: Implementing Immersed Interface Techniques in the High-Performance ETO Solver Ansys		
4:25 PM - 4:50 PM	Scaling from Battery Cell to Electric Vehicle (EV) Crash - A Case Study from Full Vehicle Penetration Ansys	LS-DYNA Post: Status and Outlook Ansys	New Advances in the Discrete Element Method (DEM) Ansys	New porous media model for high-speed flows, and design-specific programming support in the built-in ETO solver in LS-DYNA Ansys		
4:50 PM - 5:15 PM	Exploring Ansys LS-DYNA Battery Modeling Capabilities Ansys	Accelerate Post-Proc Assessments using Simi Ansys		Study of Vehicle Aerodynamics with the CFD Solver and its Application to the Question of Peak Power Version DynaSim		
5:30 PM - 7:30 PM	Networking Reception					
Day 2: Wednesday, October 23rd						
Breakfast & Exhibits Garden Gallery						
Registration						
Tutorials Available The Ansys Pavilion						
HPE/AMG Roundtable Library A						
Advancing Transportation and Road Safety: GM's Research Activities Using LS-DYNA Simulation						
Grand Ballroom George Mason University						
Tracks	Cockpit Grand Ballroom	Drop Impact Dynamics Principal Ballroom	Occupant/Pedestrian Safety II Miscellaneous Ballroom	Forming II Drawing Room	Biomechanics/Healthcare I Library C	IGA I Library D
8:30 AM - 8:55 AM	Modeling thick-walled aluminum extrusions in side-impact applications NTRV	Study on Impact Loading Reduction Performance of "Organic IIG" Safety Simulation Ansys	Advancements in Humanoid FEM Models Humanteq	Ansys Forming - The New G12 for Forming Simulations with LS-DYNA: An Overview and Outlook Ansys	Optimization of Formed Steel in CAE to Minimize Ductile Part Analysis Hewlett Packard	
8:55 AM - 9:20 AM	Simulated Failure Limitations of Midweight ground System JSCC	More than 40% cost reduction through drop test simulation with Ansys LS-DYNA CAQDEM	Enhancing Vehicle Safety Assessments through Advanced Virtual Testing Capabilities/Experiments with the aid of ANSA and MSC/ETA ETA	On-Hemming Simulation with Ansys Forming and LS-DYNA Postprocessor Ansys	Simulation of drug effects on whole heart contractility Ansys	Evaluation of B-Pillar crush using LS-DYNA Shell Ansys
9:20 AM - 9:45 AM	Leveraging Graph Neural Networks for Surge-Impact Development in Aerospace Crash Simulations Ansys	Accidental Fuel Drop on Spare Fuel Foot Storage Racks Ansys	Mitigating Risks at Bus Stops: A Study of the Effectiveness of Safety Features University of Nevada	A systematic study on Ansys Forming performance Ansys	Simulation workflow for Transcatheter Aortic Valve Replacements: From crimping and deployment to fluid-structure interaction DYNmore	Recent Enhancements and Studies of Ingressions: Study in LS-DYNA DYNmore
9:45 AM - 10:10 AM	Sequenced drop test simulations through automated process in Workbench LS-DYNA CAQDEM	Sequenced drop test simulations through automated process in Workbench LS-DYNA CAQDEM	Data preparation for the CAQDEM for HSE/ISO/BS/1 rating calculation with both from the DYNmore Ecs System DYNmore	3D Download Design and Mesh Regeneration in Ansys Forming Ansys	Optimization of Prosthetic Heart Valves: Enhancing Hemodynamics through Advanced Meshing Techniques Ansys	Updates on Ingress IGA & Splines Solids DYNmore
10:10 AM - 10:30 AM	AM Break Served On All Floors					
Tracks	Simulation Misc I Grand Ballroom	Material & Constitutive Modeling II Principal Ballroom	Aerospace Structure Impact & Dynamics II Miscellaneous Ballroom	Drop Impact Dynamics II Drawing Room	Biomechanics/Healthcare II Library C	NW/Implicit Library D
10:30 AM - 10:55 AM	Acceleration of Implicit LS-DYNA Ansys	Evaluation of Nonlinear Material Models in LS-DYNA based on Stress Relaxation Data General Motors	Demonstration of MAT234 Fracture Surface Plots for Material Subjected to Three Dimensional State of stress JSCC	Advancing Solver Joint Modeling with FEM: A Two Scale Co-Simulation Approach for Link & Joint Analysis Using LS-DYNA Ansys	A New Element Solution for Contact Electrohydraulics in LS-DYNA Ansys	Recent developments in Ansys LS-DYNA's Non-Linear Ansys
10:55 AM - 11:20 AM	Efficient Performance Composite for Ansys LS-DYNA Leveraging NVIDIA Grace Platform NVIDIA	A physics-based strength prediction model for glass Nonwoven Defense Ansys	Application of the MAT 233 Composite Impact Models: ANSA Postbuckling of Interest ANSA	Combining Physical Test with Structural Explicit FEA to Develop Package Level FEM Models for Electronic Components Ansys	Pyburn-1b: A Python Library for LS-DYNA Mesh-Physics Simulations Ansys	Advancements in Equivariant Technology Ansys
11:20 AM - 11:45 AM	Application of FEM Method in Various Manufacturing Processes Simulation Ansys	Considering the Local Anisotropy in the Simulation Process: Case for Short and Long Fiber Reinforced Thermoplastics 4A Engineering	Progressive Damage and Failure Analysis for Structural Composite Fiber Composites Ansys	Fast Study of Multiple Scale Inhomogen and Design Shape Optimization using LS-DYNA, LS-CPP and DEP MeshWorks DYNmore	Simulation of Oilfield & geomechanics liquid jets with LS-DYNA ETO Ansys	The new Tracer solver with nonlinear contacts DYNmore
11:45 AM - 12:10 PM	LS-DYNA Smoothed Particle Galerkin (SPG) method for flexible viscous interaction: Tissue capsule, development road map Ansys	Modeling of failure in aluminum high pressure die castings NTRV	Development of Anisotropic Plasticity Model of Titanium (AA-64) for Ballistic Impact Simulation George Mason University	Simulation of hammer impact during driving process of offshore monopile foundation for wind energy structures Rena Technology	Simulation of Global Motion of the Brain in Response to Trauma: A Biomechanical Approach Ansys	Introduction of LS-DYNA MCO: solver coupling with Ansys Aqwa for the application in globalizing analysis Ansys
12:10 PM - 1:15 PM	General Lunch Garden Gallery					
Tracks	Simulation Misc II Grand Ballroom	Bifurcation Dynamics Principal Ballroom	Aerospace Structure Impact & Dynamics III Miscellaneous Ballroom	Forming III Drawing Room	Pre and Post Processing Library C	IGA II Library D
1:15 PM - 1:40 PM	LS-DYNA User-Defined Internal Balancing Method ANSA	Adaptive FEM-DEM simulation of a soft tissue impact on a reinforced concrete slab CAQDEM	Experimental Calibration of Flow Rule Coefficients for LS-DYNA MAT_233 JSCC	Simulation of sheet metal forming using solid elements Ansys	Virtual Testing Protocols and LS-DYNA-Pre and Post Processing Solutions in the Open LS-DYNA Environment Ansys	Pre-processing IGA models with ANSA ANSA
1:40 PM - 2:05 PM	Implicit Modeling Methodologies and Failure Characterization of Aluminum Reinforced Optimal (RFO) using LS-DYNA JSCC	A new set of Eulerian Solver inside LS-DYNA Ansys	Failure Analysis of Adhesive Joints for Composite Packaging & Core Ansys	Trimble Development Application with Ansys Forming JIT	Ensuring conformity and high level productivity between ANSA and LS-DYNA during model and test case development ANSA	CAE-integrated Unformed Body FE Unstructured LS-DYNA Preprocessors for Ingressions, Analysis and Digital Tests DYNmore
2:05 PM - 2:30 PM	Use of LS-DYNA for Estimating Earthquake-Induced Ground Settlements Civilized Engineering	Hourglass Control Recommendations for Simulating Reinforced Concrete under Low Velocity Impact University of North Carolina Charlotte		Trim case development in Forming simulation Ansys	CAE process automation using ANSA and SPDM for creating crash digital models BETA	Computational efficiency in IGA Soler by applying substructuring technology Ansys
2:30 PM - 2:55 PM	Continuum-based Particle Gas (CPG): A New Approach for Airbag Deployment Simulation Ansys	Materials Data Management for Simulations Ansys		Validating user simulations in heat exchanger plate stamping process through comparative analysis with experimental data to enhance productivity and quality DYNmore	Overview of LS-TASC and New Feature Highlights Ansys	
2:55 PM - 3:15 PM	PM Break Served On All Floors					
Using Analysis for Decision Making in Aerospace Applications						
Grand Ballroom JSA						
Updates on LS-DYNA Development						
Grand Ballroom Ansys						