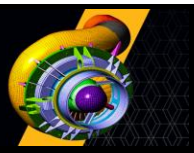
LS-DYNA CONFERENCE 2020

16th International LS-DYNA Conference Virtual Event

June 10-11, 2020 | Free Online Live Event



AGENDA

Register Now

Times are in EDT

KEYNOTE AND PLENARY

Date	Time	Paper #	Session and Presenter
June 10	9:00 am		**What to Expect in the Future,** A. Hancq, Ansys
	9:15 am		**The LS-Dyna Journey,** Dr. John Hallquist, LSTC
	9:20 AM		**Isogeometric Analysis: New Directions and Recent Progress,** Prof T.J.R. Hughes, The University of Texas at Austin
	10:00 am		**Honda Keynote Presentation,** K.Takada, Honda
	10:10 AM		**The Long and Winding Road Towards a Predictive Material and Failure Model for Aluminum 2024-T351 Undergoing Impact,** D. Cordasco, FAA Aircraft Catastrophic Failure Prevention Program
	10:10 AM		**The Sagrada Familia Basilica, Barcelona: LS-DYNA®'s role in a 140-year journey,** R. Sturt, Arup
	10:10 AM		**Recent Advances in Linear Algebra for LS-DYNA Applications,** R. Grimes, Ansys
	10:10 AM		**Achieving the Medtronic Mission with Modeling and Simulation,** M.Palmer, Medtronic and D. Benson, Ansys, Medtronic and Ansys
	10:50 am		**Intel Sponsor Keynote,** K.Devi, Intel
	11:00 am		**Beta CAE Systems Sponsor Keynote,** L. Rorris, BETA CAE Systems
	11:20 am		**TotalCAE Sponsor Keynote,** R. Mach, TotalCAE
	11:30 am		**Dynamore Sponsor Keynote,** U. Göhner, Dynamore

AEROSPACE

Date	Time	Paper #	Session and Presenter
June 10	10:50 AM	186	**On Composite Model Calibration for extreme Impact Loading exemplified on Aerospace Structures,** A. Haufe, DYNAmore
	11:15 AM	004	**Enhancement of Deformation sub-model in an Orthotropic Material Model,** L. Shyamsunder, Arizona State University
	11:40 AM	017	**Ballistic Impact Simulations of an Aluminum 2024 Panel using *MAT_224 in LS-DYNA Considering Oblique and Attitude Angles of a Rectangular Projectile,** C.-K. Park , George Mason University
	12:05 PM	041	**Investigation of Mesh Regularization in MAT_224 for Subsequent Use in Impact Simulations,** T. Lyons , The Ohio State University
	12:30 PM	005	**Using *MAT_213 and *MAT_187 to Predict Failure in Unidirectional Composites,** Bilal Khaled, Arizona State University
June 11	10:45 AM	136	**On accuracy and stability of implicit time integration schemes for rotating structures,** T. Borrvall , DYNAmore Nordic
	11:10 AM	148	**Belt modelling in LS-DYNA,** K. Engstrand , DYNAmore Nordic
	12:00 PM	182	**Use of prepreg carbon and aluminium in satellite shielding submitted to high velocity impacts,** T. Legaud , DynaS+
	12:25 PM	208	**Experimental Design for Negative Triaxialities: Ductile Fracture Under Combined Uniaxial Tension and Hydrostatic Pressure,** R. Lowe , University of Dayton
	12:50 PM	212	**ES2/2re model validation for aircraft side impact with LS-DYNA,** A. Schif , Dynamore

AUTOMOTIVE

Date	Time	Paper #	Session and Presenter
June 10	10:50 AM	011	**Automatic analysis of crash simulations with dimensionality reduction algorithms such as PCA and t-SNE,** D. Kracker , Porsche
	11:15 AM	215	**Side Curtain Airbag Folding Methodology,** P. Calzada , Ford Motor Company
	11:40 AM	031	**An Approach for Modeling Shock Propagation through a Bolted Joint Structure under Impact Loading,** P. Shojaei , University of Nevada
	12:05 PM	040	**An engineering approach of an X-Ray Car Crash under reverse Small Overlap configuration,** Y. Leost , Fraunhofer EMI
	12:30 PM	072	**A Path Towards Including Batteries in Electric or Hybrid Car Crash Simulations with LS-DYNA,** P. L'Eplattenier, Ansys
	12:55 PM	078	**Modeling Plastic Clips in LS-DYNA® for Low-Energy Impact Analyses,** K. Freeman , DYNAmore Corporation
June 11	10:45 AM	104	**A Methodology to Model the Statistical Fracture Behavior of Acrylic Glasses for Stochastic Simulation,** M. Berlinger, TH Mittelhessen
	11:10 AM	112	**Introducing the Arup-Cellbond MPDB Shell Model,** L. Rovira-Crespo , Arup
	11:35 AM	147	**MPDB Pre- and postprocessing in Animator4 and Generator4,** L. B. Cia, GNS mbH

BIOMEDICAL

Date	Time	Paper #	Session and Presenter
June 10	10:50 AM	067	**On the Performance and Accuracy of Enhanced Particle Finite Element Method in the Solution of Biomedical Benchmarks,** C.-J. Huang, Ansys
	11:15 AM	073	**Cardiac electrophysiology using LS-DYNA,** P. L'Eplattenier, Ansys
	11:40 AM	153	**Further Validation and Improvements to a 50th Percentile Male Pedestrian Finite Element Model,** D. Grindle, Virginia Tech
June 11	11:35 AM	145	**Coupled Fluid-Structure Interaction Simulation of Prosthetic Heart Valves,** F. Del Pin, Ansys

BLAST & SPH

Date	Time	Paper #	Session and Presenter
	12:55 PM	201	**Driving Through Flooded Road,** P. Bijoy , GM

June 10	11:15 AM	094	**A Simple Ejection Mitigation Device to Increase Survival of Standing Gunner,** M.S. Hamid , Advanced Computational Systems
	12:05 PM	119	**Development of a regression model for blast pressure prediction in urban street configurations,** S. Lee , Michigan Engineering Services
	12:30 PM	058	**Adaptive SPH Method and Higher Order Kernel Function in Ls-Dyna,** J. Xu, Ansys

CESE

Date	*Time*	*Paper #*	*Session and Presenter*
June 11	10:45 AM	025	**Electrochemical-Thermal-Mechanical coupling of Lithium-Ion Battery Model in LS-DYNA,** K. Im, Ansys
	11:10 AM	036	**Overview of the CESE compressible fluid and FSI solvers,** G. Cook, Ansys
	11:35 AM	037	**Multiphase flow CESE solver in LS-DYNA,** Z. Zhang, Ansys
	12:00 PM	038	**Using the CESE Immersed Boundary FSI solver to simulate the FSI of the front portion of a turbofan, including damage,** G. Cook, Ansys
	12:25 PM	039	**FSI Based on CESE Compressible Flow Solver with Detailed Finite Rate Chemistry,** K. Im, Ansys

COMPOSITES

Date	*Time*	*Paper #*	*Session and Presenter*
June 10	10:50 AM	023	**Simulating Prepreg Platelet Molding Compound Flexure Coupons in LS-DYNA Using MAT54,** R. Cutting, Purdue University
	11:15 AM	024	**Stacked Shell Modeling for Evaluation of Composite Delamination in Full Vehicle Simulations,** O. Hartmann , ARRK Engineering
	11:40 AM	034	**Strength Assessment of an Electronic Plastic Component considering local Fiber Orientation and Weld Lines,** S. Pazour , PART Engineering
	12:05 PM	055	**Thermoforming Process Simulation in LS-DYNA® to Predict Tool Pressure Distribution as a Result of Thickness Changes in UHMWPE Unidirectional Cross-Plies,** K. White, University of Massachusetts Lowell
	12:30 PM	088	**Intelligent multiscale simulation based on process-guided composite database,** Z. Liu, Ansys

COMPOSITES & OPTIMIZATION

Date	*Time*	*Paper #*	*Session and Presenter*
June 10	12:55 PM	100	**Modeling and Validation of Failure Behaviors of Composite Laminate Components using MAT_262 and User Defined Cohesive Model,** M. Nishi , JSOL
June 11	10:45 AM	101	**J-Composites/Compression Molding - Introducing New Simulation System for FRP Composites,** S. Hayashi, JSOL
	11:10 AM	109	**An adaptive thick shell element for crashworthiness assessment of laminated composites,** J. Främby , DYNAmore Nordic
	11:35 AM	131	**Development and Implementation of a Composite Material Shell-Element Model,** T. Achstetter , George Mason University
	12:00 PM	195	**Application of a Composite Material Shell-Element Model in Ballistic Impact and Crush Simulations,** T. Achstetter , George Mason University
	12:25 PM	178	**Modified Dynamic Time Warping for utilizing partial curve data to calibrate material models,** N. Stander, Ansys
	12:50 PM	189	**Sequential Optimization & Probabilistic Analysis Using Adaptively Refined Constraints in LS-OPT®,** A. Basudhar, Ansys

CONSTITUTIVE MODELING

Date	*Time*	*Paper #*	*Session and Presenter*
June 10	10:50 AM	074	**New Design Considerations for the Calibration of Rubber-like Materials,** Y. Lev , Technion Institute of Technology
	11:15 AM	102	**Simulation of Compression Behavior of Paper Product using *MAT_PAPER,** S. Tokura , Tokura Simulation Research
	11:40 AM	106	**Incremental damage model for fatigue life assessment in complete machinery simulation,** M. Lilja , DYNAmore Nordic
	12:05 PM	115	**Parameters identification for wood material (*MAT_143) and its application on the modeling of a typical timber Nuki joint,** F. Lancelot , Arup
	12:30 PM	127	**The Use of User Defined Elements and Extra Degrees of Freedom,** K. Carney , Forming Simulation Technology
	12:55 PM	141	**Workflow based Material Calibration in d3VIEW - Learnings and New Development,** S. Bala , d3VIEW
June 11	11:10 AM	152	**Application of *MAT_258 in bending and crushing of extruded aluminum profiles using shell elements,** J. K. Holmen , NTNU
	11:35 AM	193	**Characterization and material card generation for thermoplastics,** M. Helbig , DYNAmore
	12:00 PM	016	**A Study on the Transfer of GISSMO Material Card Parameters from 2D- to 3D-Discretization,** D. Sommer , University of Stuttgart
	12:25 PM	079	**Calibration and application of GISSMO and *MAT_258 for simulations using large shell elements,** J. Johnsen, Enodo

ELECTROMAGNETICS & SPG

Date	*Time*	*Paper #*	*Session and Presenter*
June 11	10:45 AM	044	**Electrostatics and EM-ICFD coupling in LS-DYNA, a glimpse of things to come,** I. Çaldichoury, Ansys
	11:10 AM	047	**Resistance Spot Welding in LS-DYNA®: an overview of current capabilities,** I. Çaldichoury, Ansys
	11:35 AM	057	**Lithium-ion battery safety simulations using LS-DYNA,** J. Deng, Ford Motor Company
	12:00 PM	049	**A meso-macro scale method for jointed structures and their failure analysis,** W. Hu, Ansys
	12:25 PM	065	**Recent Developments on the Smoothed Particle Galerkin (SPG) Method,** Y. Wu, Ansys
	12:50 PM	071	**Sensitivity Study of Self-Piercing Rivet Insertion Process Using Smoothed Particle Galerkin Method,** Youcai Wu, Ansys

FSI/ALE COMPUTE

Date	Time	Paper #	Session and Presenter
June 10	11:15 AM	081	***ALE_STRUCTURED_FSI: The New S-ALE FSI Solver,** H. Chen, Ansys
	11:40 AM	082	**Recent Developments in LS-DYNA S-ALE,** H. Chen, Ansys
	12:05 PM	006	**Using The Latest Cloud Technology to Accelerate LS-DYNA: Examples and Case Studies,** R. Mach , TotalCAE
	12:55 PM	188	**A study of LS-DYNA® Implicit running the Rolls-Royce® Large Representative Engine model with Intel® Optane™ memory technology,** N. Meng, Intel
June 11	10:45 AM	083	**LS-DYNA Structured ALE Solver with large models,** H. Chen, Ansys
	11:10 AM	143	**Fuel-tank sloshing using SPH capability in LS-DYNA,** T. Phule, FCA
	11:35 AM	171	**Semi-implicit ISPG method for incompressible free-surface fluid flow analysis,** X. Pan, Ansys

ICFD

Date	Time	Paper #	Session and Presenter
June 10	12:05 PM	144	**Transient Fluid Structure Simulation of Ground Vehicles,** F. Del Pin, Ansys
June 11	10:45 AM	116	**Visualising Vehicle Platoon Aerodynamics Using ICFD in LS-DYNA,** Edward Pettitt, Arup
	11:10 AM	168	**Drag Coefficient Optimization for a Sports Car using the coupling between LS-DYNA ICFD solver, LS-OPT and DEP MeshWorks software,** M. Seulin , Dynas+
	12:00 PM	046	**Introduction of sliding and overset capabilities in the ICFD LS-DYNA solver,** I. Çaldichoury, Ansys

ICFD

Date	Time	Paper #	Session and Presenter
June 11	10:45 AM	043	**Analysis and Optimization of Aluminum Automobile Side Door Design using LS-DYNA Implicit and LS-OPT,** A. Kulkarni , Novelis
	11:35 AM	063	**Random Vibration Fatigue Analysis Model Development from Explicit to Implicit in DYNA,** H. Lee , General Motors
	12:00 PM	080	**New generation iterative solvers in LS-DYNA,** F. H. Rouet, Ansys

ISOGEOMETRIC ANALYSIS,TOPOLOGY & OPTIMIZATION

Date	Time	Paper #	Session and Presenter
June 10	12:55 AM	169	**Multi-material Topology Optimization in LS-TaSC using Ordered SIMP Interpolation,** S. Ramnath , Ohio State University
	10:50 AM	123	**THE LATEST DEVELOPMENTS OF THE ANSA PRE-PROCESSOR FOR IGA APPLICATIONS OF LS-DYNA.,** L. Rorris , BETA CAE Systems
	11:15 AM	053	**Constrained Multidisciplinary Topology Optimization using LS-TaSC™,** W. Roux, Ansys
	11:40 AM	085	**The Effect of InfiniBand and In-Network Computing on LS-DYNA Simulations,** O. Maor , HPC-AI Advisory Council
	12:05 PM	151	**Simultaneous Exploration of Geometric Features and Performance in Design Optimization,** N. Dommaraju , Honda Research Institute Europe)

METAL FORMING

Date	Time	Paper #	Session and Presenter
June 10	10:50 AM	045	**Conjugate heat transfer in LS-DYNA: an update of the ICFD-structure coupling capabilities for hot stamping,** I. Çaldichoury, Ansys
	11:15 AM	056	**LS-DYNA material model 263 and its application to earing predictions in cup-drawing,** J. Zheng, Ansys
	11:40 AM	059	**A new keyword to apply moving temperature boundary conditions and its application in fused filament fabrication,** J.Zheng, Ansys
	12:05 PM	068	**Recent Updates on One-step Forming Method in LS-DYNA,** H. Fan, Ansys
	12:30 PM	069	**Performance Study of In Core Adaptivity in LS-DYNA,** H. Fan, Ansys
	11:40 PM	059	**A new keyword to apply moving temperature boundary conditions and its application in fused filament fabrication,** J. Zheng, Ansys
June 11	10:45 AM	138	**Demonstrating LS-DYNA's capabilities in welding simulations by experiments,** M. Rikken, Arup
	11:10 AM	190	**Investigation on Transversal Anisotropy of an Aluminum Sheet for Crash Applications,** F. Andrade, Dynamore
	11:35 AM	207	**Optimising Run Times for Sheet Metal Forming Simulation,** T. Dutton , Dutton Simulation
	12:00 PM	076	**A Dedicated Forming Package LS-FORM for Stamping Simulation with LS-DYNA®,** Y. Xiao, Ansys
	12:25 PM	077	**New Metal Forming Keywords in LS-DYNA®,** X. Zhu, Ansys

MODELING

Date	Time	Paper #	Session and Presenter
June 10	10:50 AM	158	**New implementation of a weakly thermal-mechanical coupling scheme in LS-DYNA,** T. Klöppel , DYNAmore
	11:15 AM	009	**Modelling Adhesively Bonded Interfaces Using Cohesive Zone Modelling: The Effect of Adherend Geometry, Element Selection, and Loading Condition,** D. Hartlen , University of Stuttgart
	11:40 AM	062	**An Investigation of Maple Wood Baseball Bat Durability as a Function of Bat Profile using LS-DYNA®,** B. Campshure , University of Massachusetts Lowell
	12:05 PM	132	**Mesomechanical Modeling of the Mechanical Behavior of Parachute Suspension Lines using LS-DYNA®,** C. Barry, University of Massachusetts Lowell
	12:30 PM	150	**Bolt modelling in LS-DYNA,** J. Forsberg , DYNAmore Nordic

NVH/SIMULATION

Date	Time	Paper #	Session and Presenter
	10:50 AM	089	**Modeling fatigue damage evolution and fatigue failure with LS-DYNA®,** Z. Cui, Ansys

June 10	11:15 AM	091	**Acoustic radiated power and radiation efficiency calculation with LS-DYNA®,** Y. Huang, Ansys
	12:05 PM	099	**Multiaxial fatigue analysis with LS-DYNA®,** Y. Huang, Ansys
	12:30 PM	028	**A unified SPH-DEM-FEM approach for modeling of debris flow impacts on protective structures,** Q. Wang, Shanghai Fangkun Software Technology
	12:55 PM	070	**Recent Developments of LS_DYNA XFEM Shells for Dynamic Ductile Failure Analysis,** Y. Guo, Ansys
	11:40 AM	092	**Recent updates in response spectrum analysis with LS-DYNA®,** Y. Huang, Ansys

OCCUPANT MODELING

Date	*Time*	*Paper #*	*Session and Presenter*
June 10	10:50 AM	027	**Hybrid III 95th Large Male Finite Element Model Neck Alteration,** Eric Day, Ansys
	11:15 AM	103	**Advanced Pedestrian Leg Impactor (aPLI),** K. Stielau (CDH), D. Blauth (ATD), CDH
	11:40 AM	120	**Simplifying the pre-simulation set up of airbag folding in LS-DYNA using ANSA,** T. Fokylidis , BETA CAE Systems

OCCUPANT PROTECTION

Date	*Time*	*Paper #*	*Session and Presenter*
June 11	10:45 AM	030	**Finite element modeling of reconstructed vehicle rear seats with adult male ATDs,** K. Yates , Virginia Tech
	11:10 AM	032	**Injury Risk Assessment during a Car–to-End Terminal Crash based on Occupant Flail-Space Model and Finite Element simulations,** Y. Meng , Virginia Tech
	11:35 AM	137	**A Model for the Stochastic Fracture Behaviour of Glass,** C. Brokmann , TH Mittelhessen
	12:00 PM	183	**Performing DOE Studies in Occupant Protection using BETA CAE tools,** N. Tzolas , BETA CAE Systems
	12:25 PM	194	**Coupled Crash Live Deployment Simulation using LS-DYNA Functional Mock-up Interface,** K. Dong , General Motors

SIMULATION

Date	*Time*	*Paper #*	*Session and Presenter*
June 11	10:45 AM	105	**Automatic Evaluation of LS-DYNA Simulation Results using Statistical Database and Python,** D. Wu, ARRK Engineering
	11:10 AM	200	**Simulation Data Management from CAD to Results with LoCo and CAViT for Large Scale LS-DYNA® LEGO® Crash Models,** M. Thiele, SCALE
	11:35 AM	214	**Cross-Platform Co-Simulation for Vehicle Safety Analysis,** X. Tong, Ansys
	12:00 PM	192	**Challenges of simulative consideration of aluminium hardening caused by paint-bake**, D. Koch , Dynamore
	12:25 PM	096	**Aircraft NPP impact simulation methodology,** Y. Novozhilov, CADFEM
	12:00 PM	192	**Challenges of simulative consideration of aluminium hardening caused by paint-bake**, D. Koch , Dynamore
	12:25 PM	096	**Aircraft NPP impact simulation methodology,** Y. Novozhilov, CADFEM

CLOSING PLENARY DEVELOPER SESSIONS

June 11	1:15 pm		**EM,** P. L'Eplattenier, Ansys
	1:30 pm		**ICFD,** F. Del Pin, Ansys
	1:45 pm		**CCFD,** G. Cook, Ansys
	2:00 pm		**Multi-Scale,** CT Wu, Ansys
	2:15 pm		**IGA+BMW Announcement,** S. Hartmann, Dynamore
	2:30 pm		**Particle Methods,** E. Yreux, Ansys
	2:45 pm		**Dummies,** C. Maurath, Ansys
	3:00 pm		**Stamping and LS-FORM,** X. Zhu, Ansys
	3:15 pm		**Topology Optimizatin,** W. Roux, Ansys
	3:30 pm		**Implicit,** T. Borrvall, Dynamore