

Invitation and Agenda

13th LS-DYNA EUROPEAN CONFERENCE & USERS MEETING – ONLINE AND ON-SITE

5 - 7 October 2021 ▪ Ulm, Germany



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Dear LS-DYNA Users,

We are very pleased to invite you to the 13th European LS-DYNA Conference 2021. This year the conference is very special, as it will take place for the first time as a hybrid event on-site and online.

Another change from past years is the schedule. This year there will be two conference days instead of two half days and one full day as before. For this reason, the get together will already take place on the evening of October 4 in the exhibition. The two conference days will then follow on October 5 and 6. The online the event will take place on October 6 and 7.

What has not changed, however, is the quality and number of our technical presentations in the break-out sessions. This year, there will again be over 170 presentations. Accompanied as always by numerous workshops and first-class keynote presentations from renowned speakers.

As of October 6, our online offer will be available to you. The schedule is exactly the same as the conference in Ulm, just one day later. Registered participants have the possibility to follow all presentations that are currently running as well as past presentations. The online offer ends on October 7. All presentations will be made available on the DYNAmore website after the conference.

We are aware that an onsite event currently brings with it many uncertainties. We will do the best possible for the protection and safety of our participants and adhere to the applicable regulations of the state of Baden-Württemberg.

We hope to have aroused your interest and look forward to a successful conference - on-site and online.

With kind regards



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CONFERENCE SCHEDULE (CET)

- Monday, 4 Oct. 2021** from 6 p.m.: Get together in the exhibition and conference registration
- Tuesday, 5 Oct. 2021** from 8 a.m.: Start of the conference
from 8 p.m.: Gala Dinner
- Wednesday, 6 Oct. 2021** from 8:30 a.m.: Second conference day / First day of the online event
- Thursday, 7 Oct. 2021** from 8:30 a.m. Second day of the online event

The presentations will be made available online one day later, i.e. all presentations from 5 October will be streamed on 6 October. The presentations from 6. October will be online on 7 October.

TUESDAY, 5 OCTOBER – DAY 1 (ON-SITE, CET)

Plenary Room

08:15	Welcome Plenary Speakers								
	Room 1	Room 2	Room 3	Room 4	Room 5	Room 6	Room 7	Room 8	Room 9
10:45	Crash I	SDM	Forming I	Simulation Methods I	Materials: Test/Calib.	Optimization I	Simulation Models I	WS Occupant Safety	Composites I
13:45	Crash II	Occupant Safety I	Forming II	Simulation Methods II	Materials: Modelling I	Impact Blast I	Simulation Models II	WS SDM SCALE	Optimization II
16:00	Crash III	Occupant Safety II	Forming III	IGA	Materials: Modelling II	Impact Blast II	Multiphysics I	WS OASYS Software	Geomechanics
19:15	Reception in the exhibition hall								
20:15	Gala dinner								

Exhibition

WEDNESDAY, 6 OCTOBER – DAY 2 (ON-SITE, CET)

07:15	Running LS-DYNA (Jogging)								
08:30	Crash IV	Composites II	Elastomers Polymers	Simulation Methods III	Materials: Modelling III	WS Dynaform 6.2	Impact Blast III	WS LS-OPT Optimization	
10:45	Battery I	Composites III	Multiphysics II	Simulation Methods IV	Cloud Computing	WS Material Characteriz.	Crash V	CFD I	
13:30	Battery II	Composites IV	Mutliphysics III	Crash VI	CFD II				
	Plenary Room								
15:45	Plenary Speakers Farewell								
17:45	End of on-site conference								

Program subject to alterations. WS = Workshop

AGENDA – ON-SITE: 5 OCTOBER (DAY 1) / ONLINE: 6 OCTOBER – MORNING SESSIONS

Plenary Room

WELCOME – PLENARY SPEAKERS

- 08:15 **Welcome**
U. Franz (DYNAmore)
- 08:30 **Recent Developments in LS-DYNA**
J. Wang (Ansys/LST)
- 09:00 **Complexity of a Solver Change and the Transfer to Project Business**
F. Bauer (BMW Group)
- 09:30 **Digital Tradition at IWC**
P. Steinhäuser (IWC)
- 10:00 **Sponsor Presentation**
Presenters from Sponsor

10:15 Break

	Room 1	Room 2	Room 3	Room 4	Room 5
	CRASH I	SDM	FORMING I	SIMULATION METHODS I	MATERIALS: TEST / CALIB.
10:45	New Features for Crash in LS-DYNA R13.0 T. Erhart (DYNAmore)	Data Representation of Crash Scenarios by Graph Structures A. Pakiman, J. Garche (Fraunhofer SCAI); A. Schumacher (Univ. of Wuppertal)	Forming and Spring-Back Simulation of CF-PEEK Tape Preforms S. Cassola, M. Duhovic, L. Münch, D. Schommer, J. Weber, J. Schlimbach, J. Hausmann (TU Kaiserslautern)	Reduced Order Modeling using LS-OPT C. Keisser (DYNAmore France); A. Basudhar (Ansys/LST)	The New Full Field Calibration Approach for Solid Elements to Model Constitutive Behaviour in Crashworthiness C. Ilg (DYNAmore)
11:10	Modeling of Adhesives in Crash Simulation M. Helbig (DYNAmore)	Automatic Outlier Detection for Crash Simulation Results D. Borsotto, L. Jansen, V. Krishnappa, S. Mertler, C. A Thole (SIDACT)	Forming Simulation of Tailored Press Hardened Parts M. Triebus, T. Tröster, M. Schaper, A. Reitz, O. Grydin (Paderborn Univ.); J. Grenz, A. Schneidt, R. Erhardt (Benteler)	Sensor Channel Data Quality Control using ML Classification Techniques J. Hornsby, R. Stahn, M. Liebscher (SCALE)	Yield Locus Exponent Modelling of Packaging Steel for an Optimized Simulation of Limited Dome Height Experiments F. Knieps, I. Moldovan, B. Liebscher, M. Köhl (thyssenkrupp); M. Merklein (IMT)
11:35	Modeling of Component Failure Due to Notch Effects in Press-Hardened Steel Caused by Mechanical and Thermo-Mechanical Joints under Crash Load P. Bähr (Fraunhofer IWM)	Data Representation of Crash Scenarios by Graph Structures A. Pakiman, J. Garche (Fraunhofer SCAI); A. Schumacher (Univ. of Wuppertal)	Synthetic Data and Artificial Intelligence: Forming Process Control using Real-Time Data Acquisition and AI Trained with Simulation Datasets M. Schmiedt, J. Lenz, W. Rimkus, S. Feldmann (Hochschule Aalen)	DYNAInspector: Customizable Quality Control using LS-DYNA Input Files S. Mattern (DYNAmore); M. Koch (Porsche); R. Bitsche (SCALE)	An Experimental and Numerical Investigation on Vulcanized Fiber K. Bayram, M. Pfeiffer, C. Alter, Prof. S. Kolling (THM)
12:00	Using History Variables in Materials to Reduce Modelling Effort and Increase Model Accuracy M. Styrnik (BMW Group); T. Erhart (DYNAmore)	SMILE – Alternative Input Language for LS-DYNA (and Other Solvers) B. Näser (BMW Group); D. Friedemann, J. Rademann (HTW Berlin)	A Three-Dimensional Finite Element Model for the Roll Bending of Heavy Plates using a 4-roll Plate Bending Machine L. Kappis, P. Froitzheim, Prof. W. Flügge (Fraunhofer IGP)	Neural Network Representation of Mechanical Fasteners in Large-Scale Analyses V. André, D. Morin, M. Costas, M. Langseth (NTNU)	

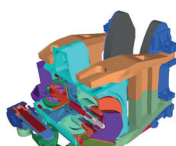
12:25 Lunch



Courtesy of Daimler AG



Courtesy of Husqvarna AB



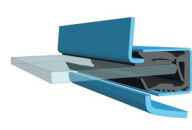
Courtesy of Knorr-Bremse Systeme für Schienenfahrzeuge GmbH



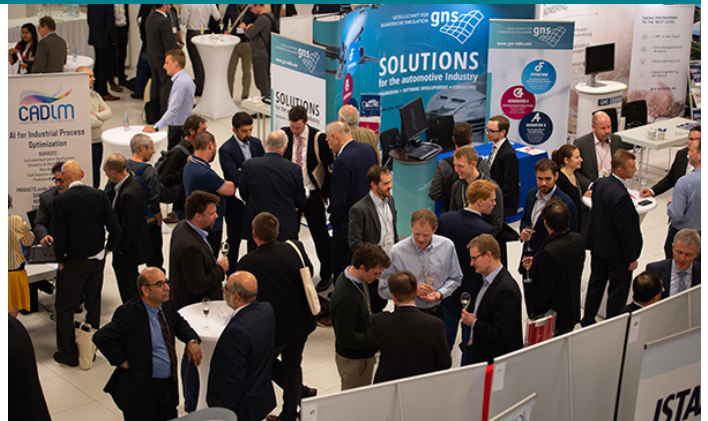
Courtesy of Jaguar Land Rover Limited



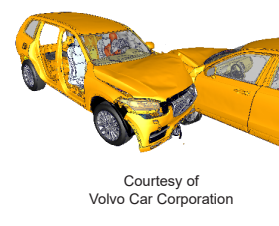
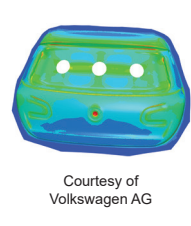
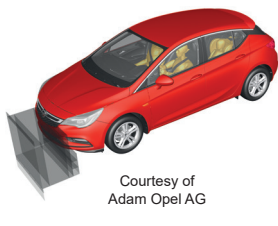
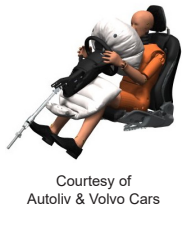
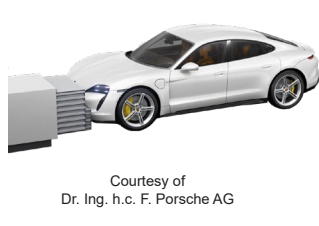
Courtesy of BMW Group



Courtesy of Saab Automobile AB



Room 6	Room 7	Room 8	Room 9
OPTIMIZATION I	SIMULATION MODELS I	WORKSHOP	COMPOSITES I
<p>Optimization of Test Specimen Geometries to Construct a GISSMO Failure Curve for a High Strength Steel B. Gürsoy, E. Tamer (BIAS Engineering)</p> <p>Multi-Material Design via Discrete Material Sampling and Topology Optimization M. Bujny, S. Menzel (Honda Europe); S. Ramnath (OSU); N. Zurbrugg, D. Detwiler (Honda America)</p> <p>PCA-Based Sensitivity Analysis of Response Fields using LS-OPT C. Keisser (DYNAmore France); M. Hübner, T. Graf (DYNAmore); A. Basudhar, N. Stander (Ansys/LST)</p> <p>Creation of 3D Geometry from Topology Optimization Results, for Thin-Walled, Casted and Additive Manufacturing Parts A. Kaloudis, P. Apostolos (BETA CAE Systems)</p>	<p>New Developments of SPG Method for Large Deformation and Material Failure Analysis of Multistage Manufacturing Processes Y. Wu, X. Pan, W. Hu, C.T. Wu (Ansys/LST)</p> <p>Spectral Element Methods for Transient Acoustics in Ansys LS-DYNA T. Littlewood, Y. Huang, Z. Cui (Ansys/LST)</p> <p>Recent Developments in NVH and Fatigue Solvers in Ansys LS-DYNA Y. Huang, T. Littlewood, Z. Cui, U. Basu, D. Benson (Ansys/LST); S. Hartmann (DYNAmore)</p> <p>Latest in AI/ML Application to Modeling Complex Geometry P. Krishnaswamy, U. Mallikarjunaiah (Xitadel); Y. Nakagawa (Honda)</p>	<p>Occupant Safety H. Sharma (DYNAmore)</p> <p>This workshop is a compact version of the original occupant protection introductory course from DYNAmore. The focus is particularly on the modelling techniques and the practical applications of a dummy model. The workshop is mainly aimed at beginners who want to carry out simulations in the field of occupant protection (especially for side, front, or rear crashes with LS-DYNA).</p> <p>This workshop addresses following topics:</p> <ul style="list-style-type: none"> - Dummy model design and development - Overview of a variety of dummy models – front, side, and rear crash - Dummy model manufacturers and their latest models on the market - Available dummy models in LS-DYNA - Structure of a dummy model - Positioning and pre-simulation of a dummy model - Summary 	<p>Modelling Laminated Glass in LS-DYNA under Extreme Loading Conditions D. Aggromito, J. Farley, J. Klimenko, M. Tartasky, W. Wholey, L. Pascoe (Arup) 10:45</p> <p>J-Composites/Compression Molding Version 2.0: New Simulation Tool for CFRP Composites S. Hayash, S. Dougherty, S. Hiroi, S. Wang, Y. Atsushi (JSOL) 11:10</p> <p>Multiscale Simulation of Short-Fiber-Reinforced Composites: From Computational Homogenization to Mechanistic Machine Learning in LS-DYNA H. Wei, C. T. Wu, D. Lyu, W. Hu, F. Rouet, K. Zhang, P. Ho (Ansys/LST); H. Oura, M. Nishi (JSOL); T. Naito (Honda); L. Shen (CoreTech System) 11:35</p> <p>Creep Study of Expanded Polystyrene used in Refrigerator Packaging S. Jagtap, D. Thorat, D. Chhetri, S. Vishwakarma (Whirlpool of India), M. Fiori (Whirlpool Technical Center) 12:00</p> <p>12:25</p>



AGENDA – ON-SITE: 5 OCTOBER (DAY 1) / ONLINE: 6 OCTOBER – AFTERNOON SESSIONS

Room 1	Room 2	Room 3	Room 4	Room 5
CRASH II	OCCUPANT SAFETY I	FORMING II	SIMULATION METHODS II	MATERIALS: MODELLING I
13:45 Damage Modeling of Aluminum Casting Components Considering Defect Distribution for Crashworthiness Prediction F. Andrieux, C. Frie, D. Sun (Fraunhofer IWM)	Latest Development of the Advanced Pedestrian Legform Impactor CAE Model C. Kleessen, C. Shah (Humanetics)	Adaptation of a Solid Self-Piercing Rivet Made of Aluminum using Numerical Simulation to Extend the Application Limits M. Schlicht, T. Nehls, P. Froitzheim, Prof. W. Flügge (Fraunhofer IGP)	Enabling Interoperability for LS-DYNA Users with Envyo using the VMAP Standard C. Liebold, T. Usta (DYNAmore)	Non-Isochoric Plasticity Assessment for Accurate Crashworthiness CAE Analysis P. Cruz, E. Martin-Santos, L. Martorell (Applus IDIADA); M. Lobdell, H. Lobo (Applus Datapointlabs)
14:10 Gradient Enhanced Damage: Modelling, Implementation and Applications H. Schmidt (Bertrandt); Prof. A. Matzenmiller, M. Nahrman (Univ. of Kassel)	Latest Developments Towards a Sophisticated THOR-5F Dummy Model I. Maatouki, C. Kleessen, C. Shah, J. Wang (Humanetics)	A Gray-Scale Mapping Method to Consider Locally Varying Properties for Wood Forming Simulations C. Liebold (DYNAmore); D. Zerbst (German Aerospace Center); T. Gereke (TU Dresden); S. Clauß (Mercedes Benz)	VMAP Enabling Interoperability in Integrated CAE Simulation Workflows K. Wolf, P. Gulati (Fraunhofer SCAI); G. Duffett (NAFEMS)	Survey of Four Material Models for Ballistic Simulations of High-Strength Concrete A. Antoniou, M. Kristoffersen, T. Børvik (NTNU)
14:35 Parameter Identification of Coating Parameters to Improve Webbing Bending Response in Passive Safety Crash Simulations A. Soni, S. Schilling, M. Grikschat, S. Jagalur, N. Chandra, S. Venkatesh, N. Puttegowda, A. Vishwanatha, M. Dahlgren (Autoliv)	Coupling Feedback Control Loop-Based Model in Simulink to Finite Element Model in LS-DYNA: Application to Reposition Forward Leaning Occupant to Upright Posture S. Schilling, A. Soni, H. Hinrichs, C. Verheyen, M. Grikschat, B. Eickhoff, A. Lucht, A. Cirstea (Autoliv)	Dynaform 6.2 - New Features and Enhancements J. Chen (eta)	Virtual Tool Commissioning using LS-DYNA Functional Mock-up Interface S. Heiland, L. Klingel, F. Jaensch (Univ. of Stuttgart); L. Penter (TU Dresden)	Prediction of Temperature Induced Defects in Concrete with LS-DYNA: Cement Hydration Implementation and Applications M. Bernardi, F. Kanavaris, R. Sturt (Arup)
15:00 Creating a Complete Crash Model with GNS. High Accurate Barriers, Handy Preprocessing with Dummy Positioning and Fast Tailored Result Analysis C. Kaulich, L. Benito Cia (GNS)	The New Rear Airbags in the Mercedes-Benz S-Class - a Challenge for Hard- and Software M. Reinitz (iSi Automotive); L. Quarg (Mercedes Benz)	Introducing Quickform solver - A Fast Enhanced Incremental Solver for Early Die Face Development Phase J. Chen (eta)	Simulation Tools for a Digital-Twin-Assisted Damage Diagnosis Focusing on the Sandwich-Structured Composite Response against to Bird Strike E. Giannaros, A. Kotzakolios, G. Sotiriadis, Prof. V. Kostopoulos (Univ. of Patras)	Modelling Liquefaction of Soils with LS-DYNA using a SANISAND-Based Material Model R. Sturt, C. Cengiz, Y. Huang, S. Bandara, A. Pillai, J. Go (Arup)
15:25 Break				
CRASH III	OCCUPANT SAFETY II	FORMING III	IGA	MATERIALS: MODELLING II
16:00 Modelling of Fracture Initiation and Post-Fracture Behaviour of Head Impact on Car Windshields K. Osnes, T. Børvik (NTNU); S. Kreisli, J. D'Haen (BMW Group)	A Critique of the THUMS Lower Limb Model for Pedestrian Impact Applications T. Cloake, C. Bastien, D. Venetsanos (Coventry Univ.), J. Hardwicke (Univ. Hospitals Coventry and Warwickshire); C. Neal-Sturgess (Univ. of Birmingham)	Simulation of Hot Rolling using LS-DYNA M. Schill, J. Karlsson (DYNAmore Nordic); H. Magnusson, F. Huyan (Swerim); N. Safara Nosar, Jonas Lagergren, T. Narström (SSAB)	Isogeometric Analysis in LS-DYNA R13 – Key Steps Towards Industrial Applications S. Hartmann, L. Leidinger (DYNAmore); D. Benson, A. Nagy (Ansys/LST); M. Pigazzini, L. Li, L. Nguyen (Ansys/LST)	On the Prediction of Process-Dependent Material Properties for Ti-6Al-4V with LS-DYNA T. Klöppel (DYNAmore)
16:25 Experience a Complete Virtual Crash and Safety Laboratory with the Aid of the ANSA Pre-processor T. Fokytidis, T. Lioras (BETA CAE Systems)	Overview of Pedestrian Analysis Setup and Post-Processing using the Oasys LS-DYNA Environment with a Focus on New Features G. Newlands, B. Crone (Arup)	Cross-Sectional Warping in Sheet Metal Forming Simulations T. Willmann, M. Bischoff (Univ. of Stuttgart); A. Wessel, A. Butz (Fraunhofer IWM); T. Beier (thyssenkrupp)	Hybrid IGA/FEA Vehicle Crash Simulations with Trimmed NURBS-Based Shells in LS-DYNA L. Leidinger, S. Hartmann (DYNAmore); D. Benson, A. Nagy (Ansys/LST); L. Rorris, I. Chalkidis (BETA CAE Systems); F. Bauer (BMW Group)	Simulating Resistive Heating of Ti-6Al-4V M. Merten (DYNAmore)
16:50 CASE STUDY - Material Models for Depiction of Unloading in Low Speed Crash Applications B. Hirschmann, H. Pothukuchi, M. Schwab (4a engineering); Y. Nakagawa, N. Matsuura (Honda)	Definition of Peak Virtual Power Brain Trauma Variables for the use in the JSOL THUMS Injury Post-Processor Web-Based estimator C. Bastien, H. Davies, X. Cheng (Coventry Univ.); C. Neal-Sturgess (Univ. of Birmingham)	Roll Forming Simulation using Higher Order NURBS-Based Finite Elements P. Glay, S. Hartmann (DYNAmore)	Isogeometric Analysis on Trimmed Solids: A B-Spline-Based Approach Focusing on Explicit Dynamics M. Messmer, R. Wüchner, Prof. F. Duddeck, K.-U. Bletzinger (TU Munich); L. Leidinger, S. Hartmann (DYNAmore); F. Bauer (BMW Group)	FE Analysis and Parameter Optimisation of Anisotropic Material Models for Metals using Full-Field Calibration W. Rimkus, J. Jung, S. Mouchtar, J. Schlosser, M. Schmiedt (Hochschule Aalen)
17:15 Assembly of Full-Vehicle Digital Crash Models using ANSA Techniques A. Kaloudis (BETA CAE Systems)	Human Body Model Positioning using Oasys PRIMER G. Mohamed, G. Newlands (Arup)		Latest Advancements for IGA Model Creation with ANSA L. Rorris, I. Chalkidis (BETA CAE Systems)	Automation of LS-DYNA's Material Model Driver to Generate Training Data for Machine Learning Based Material Models D. Sommer, K. Mitruka, Prof. P. Middendorf (Univ. of Stuttgart)
17:40	Real Time Biofidelic Positioning of Human Models with ANSA L. Rorris, A. Lioras (BETA CAE Systems)		Prediction of Fatigue Damage by Random Vibration using Isogeometric and Finite Element Analysis S. Wang, R. Troain, L. Khalij (INSA)	Implementation of Deep Learning-Based Models for the Prediction of Elasto-Plastic Material Behavior M. Burkhardt, D. Wiesner, Prof. U. Göhner (Univ. of Applied Sciences Kempten)

19:00 RECEPTION IN THE EXHIBITION HALL – 20:00 GALA DINNER IN PLENARY ROOM

AGENDA – ON-SITE: 5 OCTOBER (DAY 1) / ONLINE: 6 OCTOBER – AFTERNOON SESSIONS

Room 6	Room 7	Room 8	Room 9	
IMPACT / BLAST I	SIMULATION MODELS II	WORKSHOP	OPTIMIZATION II	
<p>Characterization of Fragments Induced by High Velocity Impacts and Satellite Additional Shielding Protective Structures Evaluation T. Legaud, V. Lapoujade (DynaS+)</p> <p>Impact Tests in Blades I. Catalina, K. Manzanera (ITP Aero)</p> <p>Effect of Impact Angle for a Bird Strike Case E. Kayar (Turkish Aerospace Industries)</p> <p>Simulation of Blast-Loaded Aluminium Plates with Crack-Like Defects H. Granum (Enodo); D. Morin, T. Børvik, O. Sture Hopperstad (NTNU)</p>	<p>FEA Analysis of Refrigerator Door Latch Mechanism S. Jagtap, S. Vishwakarma (Whirlpool of India); M. A Fiori (Whirlpool Technical Center)</p> <p>PDC Electrical Cable Modeling using TRUSS Elements B. Pockszevnicki, V. Carvalho Rosa, R. Rajagopalan (Stellantis)</p> <p>Numerical Modeling of Aluminum Forgings; Issues of Material Failure and Element Formulation F. Hekmat (General Motors); P. Du Bois (Consultant)</p> <p>Predictive Engineering using Dfss of IBM Power9 System A. Alfoqaha, K. O'Connell, E. Campbell, M. Hamid (IBM)</p>	<p>Simulation Data Management with Loco M. Thiele (SCALE)</p> <p>The workshop gives an overview of the SCALE SDM products such as LoCo, CAVIT and Status.E.</p> <p>There will be a discussion on how to benefit from SCALE solutions as a user or project manager. The application of selected uses cases will be presented within live demos. Examples of typical CAE workflows and process automation using SCALE SDM applications are introduced. A lively discussion at the end of the workshop is very welcome to investigate a potential integration of SDM software in your environment.</p>	<p>Topology Optimization of an Automotive Hood for Multiple Load Cases and Disciplines I. Gandikota, W. Roux, G. Yi (Ansys/LST)</p> <p>Determination of Material Modeling Parameters using LS-OPT Based Optimization Technique S. Mohapatra, A. U, K. Kurudimath, S. Mohapatra (SABIC)</p> <p>LS-OPT: Status Update N. Stander, A. Basudhar (Ansys/LST)</p> <p>Vortex: A New Structural Optimisation Solver for Lightweight Holistic Automotive Design D. Russell (Vortex Engineering); N. Kalageros (Jaguar Land Rover)</p>	<p>13:45</p> <p>14:10</p> <p>14:35</p> <p>15:00</p>
IMPACT / BLAST II	MULTIPHYSICS I	WORKSHOP	GEOMECHANICS	
<p>Simulation of the High Velocity Impact of Railway Ballast on Thermoplastic Train Underbody Structures M. Vinot, D. Schlie, T. Behling, M. Holzzapfel (DLR)</p> <p>Numerical Analysis of Impact Tests on Bending Failure of Reinforced Concrete Slabs Subjected to Inclined Soft Missile Impact C. Heckötter, J. Sievers (GRS)</p> <p>Evaluation of New Materials for Penetrator Warheads using LS-OPT C. Lange, C. Pohl (TU Munich); J. Breiner (TDW)</p> <p>Hourglass Reduction Measures in Hard Turbine Missile Impact into Concrete Protective Barrier A. Iliev, M. Miloshev (Mott Macdonald)</p> <p>Significance of Element Erosion Induced Mass Loss in High Velocity Penetration of Long Rods M. Kamberoglu (Roketsan)</p>	<p>Magnets Dynamics using LS-DYNA T. Nguyen, I. Caldichoury, P. L'Eplattenier (Ansys/LST); L. Kielhorn, T. Rüberg, J. Zechner (Tailsit)</p> <p>Introduction of ISPG Method and Geometric Multiscale Modeling for Electronics Solder Reflow and Shock Wave Analysis D. Lyu, W.Hu, X. Pan, C. T. Wu (Ansys/LST)</p> <p>Comparative Evaluation of Sound Absorption Performance of Various Types of Core Panels S. Tokura (Tokura Simulation Research Corporation)</p> <p>Cardiac Electrophysiology using LS-DYNA P. L'Eplattenier, I. Caldichoury; K. El Houari (Ansys/LST)</p> <p>Validation of the CHEMISTRY Solver in LS-DYNA R. Nasouri, A. Matamoros, A. Montaya (Univ. of Texas); H. Rokhy (Amir Kabir Univ.); R. Backzadeh (Urmia Univ.)</p>	<p>Oasys Software Arup</p> <p>Oasys PRIMER Workshop – Introduction and Demonstration of Automotive Tools</p> <p>Oasys PRIMER is used worldwide to pre-process LS-DYNA models. As well as the core tools for model creation and checking. PRIMER contains many tools to make it easier to setup automotive models/loadcases. This workshop will introduce these tools and demonstrate how to use them. Examples include:</p> <ul style="list-style-type: none"> - Barrier positioning - Pedestrian protection - Interior head impact - Seatbelt anchorage - Occupant setup - Automation <p>Members of the Oasys team will also be on hand to answer any questions you have on PRIMER or any of the Oasys LS-DYNA products.</p>	<p>Calibration of Six Constitutive Material Models for Geomaterial R. Nasouri, A. Matamoros, A. Montaya (Univ. of Texas); H. Rokhy (Amir Kabir Univ.); R. Backzadeh (Urmia Univ.)</p> <p>Benchmarking Concrete Material Models using the 2D and 3D SPH Formulations in LS-DYNA A. Whittaker, B. Terranova, A. Whittaker (Univ. at Buffalo); L. Schwer (Schwer Engineering & Consulting Services)</p> <p>Numerical Simulation of Rock Cutting Mechanism of Tunnel Boring Machine R. Nasouri, A. Matamoros, A. Montaya (Univ. of Texas); H. Rokhy (Amir Kabir Univ.); R. Backzadeh (Urmia Univ.)</p>	<p>15:25</p> <p>16:00</p> <p>16:25</p> <p>16:50</p> <p>17:15</p> <p>17:40</p>

19:00 RECEPTION IN THE EXHIBITION HALL – 20:00 GALA DINNER IN PLENARY ROOM

AGENDA – ON-SITE: 6 OCTOBER (DAY 2) / ONLINE: 7 OCTOBER – MORNING SESSIONS

07:00 Running LS-DYNA (45 min. Jogging)

Room 1

Room 2

Room 3

Room 4

Room 5

CRASH IV

COMPOSITES II

ELASTOMERS / POLYMERS

SIMULATION METHODS III

MATERIALS: MODELLING III

08:30 **Analyzing Bicycle Accidents with Human Body Models**
V. Alvarez, K. Brolin (Lightness by Design); H. Wendeltrup (Hövdig)

Thermo-Mechanical Homogenization of Composite Materials
S. Alameddin, F. Fritzen (Univ. of Stuttgart)

Using MAT_ADD_INELASTICITY for Modelling of Polymeric Networks
T. Borrvall, F. Bengzon, A. Jonsson (DYNAmore Nordic); M. Lindvall (IKEA)

Dynamic Behaviour Study of a Satellite propellant Tank using Numerical and Experimental Vibratory Tests
T. Pierrot, A. Guilpin, T. Legaud, V. Lapoujade (DynaS+); J.-E. Chambe, M. Charlotte, Y. Gourinat (Univ. de Toulouse); M. Delorme (ATECA)

Experimental Measurements and Theoretical Calculations of the Taylor-Quinney Coefficient
J. Johnsen (Enodo); L. Dæhli, T. Børvik, O. Sture Hopperstad (NTNU)

08:55 **Predicting the Results of the Finite Element Simulation of a Snowboarding Backward Fall with ODYSSEE**
D. Salin (CADLM), W. Wei, N. Bailly (Aix Marseille Univ.)

Numerical Investigation of the Forming Behaviour of Polymer-Metal Sheets using Fibre Reinforced Thermoplastic Tapes with Discontinuous Layup
P. Kabala, T. Ossowski, K. Dröder, A. Hürkam (TU Braunschweig); I. Karb (Compositence); D. Trudel-Boucher (National Research Council Canada)

Modelling and Simulation of the Long-Term Behavior of Thermoplastics in LS-DYNA
M. Morak (Polymer Competence Center Leoben); R. Steinberger, I. Sladan, S. Seichter (Hirtenberger); W. Hahn, M. Göttlinger (Hilti); P. Reithofer, M. Schwab, H. Pothukuchi (4a engineering)

Combustion Engine Analyses Using New and Extended Features in LS-DYNA
A. Jonsson, T. Borrvall, F. Bengzon (DYNAmore Nordic)

Calibration and Application of *MAT_258 for Bending of High-Strength Steel
J. Holmen (Enodo); J. Johnsen (Enodo); D. Morin, M. Langseth (NTNU)

09:20 **Comparing the Frontal Impact Responses of the VIVA+ Average Female and SAFER Average Male Human Body Models in a Generic Seat**
E. Svenning, T. Johansen (DYNAmore Nordic); K. Mroz, N. Lubbe (Autoliv); J. Iraeus (Chalmers Univ.)

Simulating the Induction Heating Behavior of CFRTPC Laminates
M. Duhovic (TU Kaiserslautern); T. Hoffmann, S. Becker, P. Mitschang (TU Kaiserslautern)

Injection Molded Energy Absorber (Ultramid PA-GF30) in the Front end of Daimler S-Class MY2020
L. Juhasz, A. Wüst, S. Glaser, S. Ebli, T. Hensel, (BASF); G. Summ, M. Herok, G. Jäger (Daimler)

Development of a Finite Element Model of High Energy Laser-Material Interaction
M. Ross, D. Pope (Dstl)

09:45 **Characterisation of an Energy Absorbing Foam for Motorcycle Rider Protection in LS-DYNA**
S. Maier, J. Fehr (Univ. of Stuttgart); M. Helbig (DYNAmore); H. Hertneck (SAS-TEC)

Numerical and Experimental Investigations of Thick-Wall Composite Hydrogen Tanks
M. Vinot, T. Behling, M. Holzapfel (German Aerospace Center); D. Moncayo (Daimler)

Ceramic-Rubber Hybrid Materials – A Way to Sustain Abrasive Heavy Impact Applications
M. Herr, M. Varga, L. Widder (AC2T research); J. Mermagen, S. Rodinger, W. Harwick (Fraunhofer EMI)

Enabling the *CONSTRAINED_INTERPOLATION_SPOTWELD (in detail SPR3) as a General-Purpose Fastening Element
M. Styrnik (BMW Group); T. Erhart (DYNAmore)

10:10 Break

BATTERY I

COMPOSITES III

MULTIPHYSICS II

SIMULATION METHODS IV

CLOUD COMPUTING

10:45 **Simulating Thermal Runaway of Batteries**
N. Karajan, S. Sible (DYNAmore Corporation)

An Integrated Modeling Scheme for Sensor Embedded Woven Composite Structures in Manufacturing Simulation
C. Liebold (DYNAmore); D. Zerbst (German Aerospace Center); T. Gereke (Mercedes Benz)

Applications of the New Magnetostatic Solver/ AMS Preconditioner in LS-DYNA
M. Duhovic, J. Hausmann (TU Kaiserslautern); I. Caldichoury, P. L'Eplattenier, T. Nguyen (Ansys/LST); L. Kielhorn, T. Rüberg, J. Zechner (Tailsit)

An Investigation of Compression Behavior of Paper Honeycomb Materials for Combi Boiler Packaging Applications
B. Imrag, Y. Gurler, A. Tasdemirci, Prof. B. Turkcan Imrag, M. Kaan Zeybek, T. Guckiran, A. Denizci (Izmir Institute of Technology)

Benchmark as Decision Support for Cloudification: Moving CAE and HPC to the Cloud Increases Quality and Efficiency of Simulations
C. Woll (GNS Systems)

11:10 **Cell Venting within a Simplified 18650 Li-ion Battery Pack**
D. Grimmeisen (CASCAE)

Axial Crushing of an Aluminum-CFRP Hybrid Component: FE-Modeling, Simulation and Experimental Validation
S. Hoque (AIT); A. Rauscher (Univ. of Applied Sciences Upper Austria)

Sideways Launching Process of a Ship using the Arbitrary-Lagrangian-Eulerian Approach
A. Ulbertus, M. Schötteleindreyer (thyssenkrupp Marine Systems); S. Ehlers (Hamburg Univ.)

From Time Delayed MRI to Patient-Specific Computational Modeling of sScar-Related Ventricular Tachycardia
K. El Houari, C. Shao, M. Rochette, P. L'Eplattenier, I. Caldichoury (Ansys/LST)

Virtual Product Development in the Digital Engineering Center: Greater Innovative Capacity through Interdisciplinary Organisation and Automation
C. Woll (GNS Systems)

11:35 **Battery Simulation in the Crash Load Case**
S. Rybak (EDAG)

Delamination and Fracture Modeling Techniques for Shell Composite Structures in LS-DYNA
A. Polla, E. Cestino, G. Frulla, P. Piana (Politecnico di Torino)

Smoothed Particle Hydrodynamics Modeling of Symmetrical Granular Column Collapse
Y. Li, N. Zhang, R. Fuentes (RWTH Aachen)

A Meta-Model Based Approach to Implement Variation Simulation for Sheet Metal Parts using Mesh Morphing Method
H. Zheng, K. Upadhyay, F. Litwa (Mercedes-Benz); K. Paetzold (Univ. of the German Federal Armed Forces Munich)

Transitioning LS-DYNA Workloads to the Cloud on the Path to Digital Maturity
I. Fernández, D. Dorribo (Gompute)

12:00 **Simplified Modeling of Pouch Cells under Different Loadings**
A. Trondl, D.-Z. Sun, S. Sommer (Fraunhofer IWM)

Laser Impact Modelling in Order to Assess Composites Bonding on Aeronautical Structures
C. Michel, V. Lapoujade, T. Maillot, J. Grassy (DynaS+)

Multiphysics SPH Simulation of Flow Drilling Process
A. Journaux, T. Legaud, V. Lapoujade (DynaS+)

12:25 Lunch

AGENDA – ON-SITE: 6 OCTOBER (DAY 2) / ONLINE: 7 OCTOBER – MORNING SESSIONS

Room 6	Room 7	Room 8	Room 9	
WORKSHOP	IMPACT / BLAST III	WORKSHOP		
<p>Dynaform 6.2 New Features P. Vogel (DYNAmore)</p> <p>The workshops feature both informative and how-to knowledge with demonstrations of the latest features from experts.</p> <p>The aim is to provide the attendees with insights, limits and merits of the topic. It facilitates the understanding by showcasing simple examples that explain the methods. Besides the presentation there will be time for interactions between the presenters and the audience.</p>	<p>Numerical Simulation of Confined Blast L. Schwer (Schwer Engineering & Consulting Services)</p> <p>Meso-Scale Modeling of Hypervelocity Impact on Spacecraft Foam-Core Sandwich Panels A. Cherniaev (Univ. of Windsor)</p> <p>Modeling and Simulation of Hypervelocity Impacts on Spacecraft in Low Earth Orbit R. Færgestad, J. K. Holmen, T. Berstad, T. Børvik (NTNU); T. Cardone (ESA); K. A. Ford (NASA)</p> <p>Modeling of Hypervelocity Impact on Spacecraft Honeycomb-Core Sandwich Panels: Investigation of Projectile Shape and Honeycomb-Core Effects A. Cherniaev, R. Aslebagh (Univ. of Windsor)</p>	<p>Investigation of Process Robustness in Sheet Forming Simulation with Dynaform and LS-OPT M. Merten, C. Liebold (DYNAmore)</p> <p>This workshop shows the application of the optimization and probabilistic analysis program LS-OPT on the drawing step of a generic fender geometry simulated with LS-DYNA to judge on the robustness and reliability of the model. Input variables of a typical sheet forming simulation that are subject to uncertainties are alternated automatically within the framework of LS-OPT based on an inherent Monte Carlo approach. Using metamodel approximations as well as classifiers to evaluate statistical results are discussed. The influence of the variation of the input variables on typical sheet forming results is investigated, e.g. thickness reduction and the Formability Index. Alternated parameters were material properties like yield and tensile strength taken from literature.</p>	<p>08:30</p> <p>08:55</p> <p>09:20</p> <p>09:45</p>	
			10:10	
WORKSHOP	CRASH V		CFD I	
<p>Material Characterization D. Koch (DYNAmore)</p> <p>The workshops feature both informative and how-to knowledge with demonstrations of the latest features from experts.</p> <p>The aim is to provide the attendees with insights, limits and merits of the topic. It facilitates the understanding by showcasing simple examples that explain the methods. Besides the presentation there will be time for interactions between the presenters and the audience.</p>	<p>Improvement in Predictive Capability of CAE Safety Models with Emphasis on GISSMO Material Model, Weld Rupture (Spot/MIG Welds) Representation and Detailed Modeling in Small Overlap Crash Test Simulations M. Parab, J. Sholingar, E. Stahmer, A. B. Sheshadri (FCA)</p> <p>Reconstruction of Trimmed and Faceted Vehicle Models for Isogeometric Analysis in LS-DYNA K. Shepherd (Brigham Young Univ.); X. D. Gu (Stony Brook Univ.); T. J. R. Hughes (Univ. of Texas)</p> <p>Using JFOLD and LS-DYNA to Study the Effects of Passenger Airbag Folding on Occupant Injury R. Taylor (Arup); S. Hayashi, M. Murase (JSOL)</p> <p>Advanced Finite Element Mesh-Morphing Methodology using a Boundary Prescribed Motion with LS-DYNA to Avoid Vehicle's Interior Trim Intersections P. A. R. Calzada, C. Gómez González, A. G. Pérez, H. H. Hernández, A. D. Morales Sánchez (Ford Motor Company)</p>		<p>Trailing Edge Failure Analysis of a Friction Pad in a Clutch using Thermal Fluid Structure Interaction with LS-DYNA ICFD Solver A. Nair, I. Caldichoury (Ansys/LST)</p> <p>Numerical Investigation of the Flow through Foldcores with LS-DYNA ICFD Solver F. Muhs, R. Walter (Univ. of Stuttgart)</p> <p>Fully Coupled LS-DYNA FSI Simulation of an Automotive Painting Process (RoDip) S. Adya, I. Caldichoury, F. Del Pin, D. Bhalsod (Ansys/LST)</p> <p>Impingement Jet Flows for Cooling using LS-DYNA: An Introduction to ICFD and ISPH Approaches E. Yreux, I. Caldichoury (Ansys/LST)</p>	<p>10:45</p> <p>11:10</p> <p>11:35</p> <p>12:00</p> <p>12:25</p>

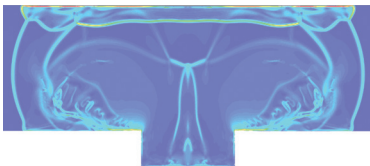
AGENDA – ON-SITE: 6 OCTOBER (DAY 2) / ONLINE: 7 OCTOBER – AFTERNOON SESSIONS

	Room 1	Room 2	Room 3	Room 4	Room 5
	BATTERY II	COMPOSITES IV	MULTIPHYSICS III	CRASH VI	CFD II
13:30	Dynamic Testing with Automated Local Strain Measurement using IMPETUS S. Riemelmoser, M. Schwab, M. Rollant (4a engineering)	Simulation of Short Fiber Reinforced Plastics in LS-DYNA using Envyo Mapped Fiber Orientations Obtained from Process Simulation in Moldex3D M. Gustavsson D. Aspenberg, M. Landervik (DYNAmore Nordic); B. Stoltz (IKEA)	Benefits of Coupling of FLACS CFD and LS-DYNA for Hydrogen Safety Applications L. Paris, M. Duchateau (Gexcon France); P. GLAY (DYNAmore France)	Truck Frame Optimization Considering Crashworthiness, NVH and Static Responses H. Dong, J. P. Leiva, B. Watson (OmniQuest); W. Gao, F. Pan (ShareFEA Engineering Technology)	New Development of the Gap Closure Feature in LS-DYNA ICFD P. Huang, F. Del Pin, I. Çaldichoury, R. R. Paz (Ansys/LST)
13:55	Modeling the Mechanical Behavior of a Li-Ion Pouch Cell under Three-Point Bending B. Schaufelberger, A. Altes, B. Schaufelberger, P. Matura (Fraunhofer EMI)	A VCCT-Cohesive Approach for the Efficient Modelling of Delamination in Composite Materials P. Daniel (Btehc); J. Främby (DYNAmore Nordic); M. Fagerström (Chalmers Univ.); P. Maimí (Univ. of Girona)	PreCICE Adapter for LS-DYNA / OpenFOAM Coupling S. Hovden, J. Kronsteiner, L. Kuang-Wu (LKR)	An Enhanced Design Exploration using Modal Decomposition of Key Events in Frontal Crash Simulation M. Okamura, H. Oda (JSOL)	New Developments and Future Road Map for the ICFD Solver in LS-DYNA F. Del Pin, R. R. Paz, P. Huang, I. Çaldichoury (Ansys/LST)
14:20	Thermo-Mechanical Characterization and Modelling of Battery Cell Components with IMPETUS and VALIMAT M. Schwab, H. Pothukuchi, M. Rollant (4a engineering)	On Interply Friction in Prepreg Forming Simulations S. Kumaraswamy (Volvo); A. Dutta (KTH); M. Landervik, A. Bernhardsson (DYNAmore Nordic); M. Åkermo (KTH)	A Methodological Study on FSI with Thermal Coupling in LS-DYNA: ALE and SPH for Low Pressure Die Casting (LPDC) Processes S. Cavariani, S. Scalera (DYNAmore Italia)	Numerical and Experimental Correlation of a Survival Cell Designed for a Bus Body Structure F. Biondo, A. Sordi, G. Magnabosco (Marcopolo)	
14:45		Failure Prediction with *MAT_215 in LS-DYNA for Short and Long Fiber Reinforced Polymers P. Reithofer, H. Pothukuchi (4a engineering); S. Kolling (THM); J. Schneider (TU Darmstadt)	Recent Developments of the EM-Module in LS-DYNA – A Discussion L. Kielhorn, T. Rüberg, J. Zechner (Tailsit)	Emphasis on Heat Affected Zone (HAZ) Modeling Around MIG Welded Joints in Crash CAE Virtual Predictive Full Vehicle Models S. Pethe (FCA US); M. Channegowda (Altair); S. Patil, A. Sheshadri, K. Jaboo (FCA)	
15:10	Break				
	Plenary Room				
	PLENARY SPEAKERS – FAREWELL				
15:45	Sponsor Presentation Presenters from Sponsor				
16:00	Water Shock Analysis E. de Hoff (Honda)				
16:30	Battery Development J. Dahn (Dalhousie University)				
17:00	Simulation at Constellium L. Laszczyk (C-TEC Constellium Technology Center)				
17:30	Farewell T. Münz (DYNAmore)				
17:45	End of conference				

Electromagnetism in LS-DYNA

Date: 4 October
 Course fee: 600 Euro*
 Location: Ulm, Germany
 Lecturer: I. Çaldichoury (LST)

This is an introduction to the Electromagnetics (EM) solver in LS-DYNA. The Maxwell equations are solved in the Eddy-Current approximation suitable for cases, where the propagation of electromagnetic waves in air (or vacuum) can be considered as instantaneous. The solver is coupled with the solid mechanics and thermal solvers of LS-DYNA allowing the simulation and solution of applications such as magnetic metal forming, welding, bending, induced heating, resistive heating and so forth. The course includes a presentation of the solver's general principles and applications, a complete keyword description for setting up an Eddy-Current problem, an introduction to the more advanced features (Inductive heating problems, exterior magnetic field, magnetic materials and so forth) as well as an advanced description of the available controlling tools to ensure a safe analysis. Key electromagnetic concepts are reviewed throughout the course and a general knowledge about electromagnetics is therefore appreciated but not mandatory.

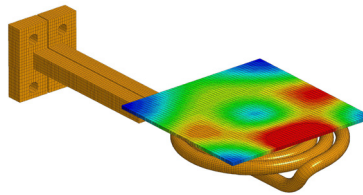


Courtesy of Rheinmetall Landsysteme GmbH

Explosives Modeling for Engineers

Date: 4 October
 Course fee: 600 Euro*
 Location: Ulm, Germany
 Lecturers: P. Du Bois (Consultant), L. Schwer (Schwer Eng. & Consulting Services)

This class focuses on the application of LS-DYNA to modeling explosives. LS-DYNA simulations involving explosives can be modeled on several engineering levels from simple application of equivalent pressure histories via *LOAD_BLAZT_ENHANCED, explicit inclusion of explosive charges using Equations-of-State and detonation via *INITIAL_DETONATION, and detonation of explosive due to impact using *EOS_IGNITION_AND_GROWTH_OF_REACTION_IN_HE. The analyst selects the appropriate degree of model sophistication to satisfy the intended use of the model results. The modeling methods are illustrated through case studies with sufficient mathematical theory to provide the user with adequate knowledge to then confidently apply the appropriate modeling method. This training class is intended for the LS-DYNA analyst possessing a comfortable command of the LS-DYNA keywords and options associated with typical Lagrange and Multi-Material Arbitrary Lagrange Eulerian (MM-ALE) analyses.

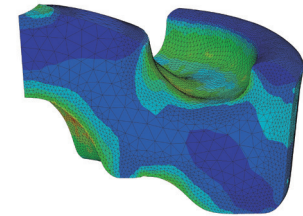


Courtesy of Institut für Verbundwerkstoffe GmbH

Introduction to SPG Method for Manufacturing and Material Failure Analysis

Date: 4 October
 Course fee: 600 Euro*
 Location: Ulm, Germany
 Lecturer: Y. Wu (LST)

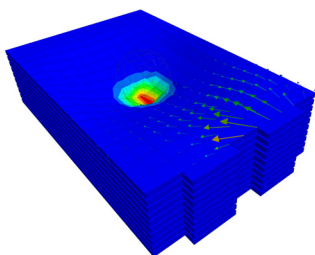
This one-day class will introduce the smoothed particle Galerkin (SPG) method and its application in manufacturing and material failure analysis. The SPG method is developed for modeling large deformation and material failure in semi-brittle and ductile materials in three-dimensional solid structures, in which a bond-based failure mechanism is utilized to model material failure. This method can be used to bridge the Lagrangian FEM and is exclusively available in LS-DYNA. The class will provide the fundamental background, LS-DYNA keywords, practical applications (in analyzing relatively low speed manufacturing processes such as metal cutting, FDS, SPR and high velocity impact penetration on concrete and metal targets) with some experimental validations and latest developments.



Resistive Heating and Battery Modeling

Date: 7 October
 Course fee: 600 Euro*
 Location: Ulm, Germany
 Lecturer: I. Çaldichoury (LST)

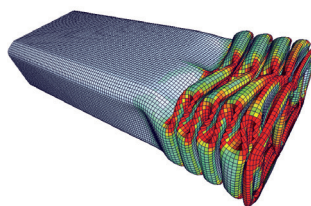
This course is based on the Electromagnetics (EM) solver of LS-DYNA. The EM module computes the Maxwell equations and is embedded into LS-DYNA following LSTCs one-code strategy, thereby allowing for an efficiently coupling to the solid-mechanics and the thermal solver. The seminar presents the solver's general principles, a complete keyword description for setting up simulation models, on the one hand, to compute inductive and resistive heating problems. On the other hand, the modelling of batteries is addressed. Thereby exploiting the Randles-circuit approach to describe the charging and discharging process as well as the accompanying heat production.



Element Types and Nonlinear Aspects

Date: 7 October
 Course fee: 525 Euro*
 Location: Ulm, Germany
 Lecturer: A. Haufe (DYNAMore)

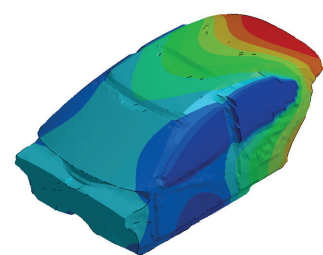
This seminar is a collection of different topics on nonlinear aspects surrounding LS-DYNA. Emphasis is directed towards element technology and the specific elements implemented in LS-DYNA. In addition, adaptive schemes for nonlinear problems are presented. Since more and more implicit features are included in LS-DYNA, another part of the class is dealing with implicit solver technology for nonlinear problems. Please note: This regular 2-day course was condensed to a one day course without workshop examples.



NVH, Frequency Domain and Fatigue with LS-DYNA

Date: 7 October
 Course fee: 600 Euro*
 Location: Ulm, Germany
 Lecturer: Y. Huang (LST)

The objective of the training course is to introduce the frequency domain vibration, fatigue and acoustic features of LS-DYNA to users, and give a detailed look at the application of these features in vehicle NVH simulation. This course is recommended for engineers who want to run NVH or other frequency domain vibration, fatigue and acoustic simulation problems with LS-DYNA. This course is useful for engineers and researchers who are working in the area of vehicle NVH, aircraft/spacecraft vibro-acoustics, engine noise simulation, machine vibration testing and simulation, etc.



* 10% discount for conference participants. All prices plus VAT. Seminar fees include class notes, lunch, and drinks during the breaks. No reduced student places available.

Online registration at www.dynamore.de/en/seminars-conf-2021

ORGANIZATION

Venue

Congress Centrum Ulm (CCU)
Basteistrasse 40
89073 Ulm, Germany

Maritim hotel

The Maritim Hotel Ulm is located directly on the Danube and offers a fantastic view of the Ulm Cathedral and the whole of Ulm and Neu-Ulm. With Ulm's city center and the green banks of the Danube at its feet, the Maritim Hotel & Congress Centrum Ulm is not only idyllic, but also right in the center.

Traveling to Ulm

By plane

Ulm can be reached from the airports of Frankfurt, Munich, and Stuttgart.
Nearest airport is Stuttgart (85 km).

By car

Ulm/Neu-Ulm is easily accessible from A8 (Stuttgart-Munich) and A7 (Würzburg-Füssen) highways (Autobahn).
Environmental badge is obligatory for green zones in Germany also for foreigners! Purchase your badge prior to your visit to Germany! Vehicles without environmental badge may not pass through the green zone. Please find further information [here](#).

Parking spaces: Underground parking for 240 vehicles and valet service.

By train

Ulm is conveniently linked to the rail network ICE, IC/EC or local train.

Accommodation

At the Maritim Hotel & Congress Centrum Ulm we have optioned a contingent at reduced rates for conference participants. Please book your hotel room yourself until August 30, 2021. Please mention the keyword „LS-DYNA Conference“ when booking. The booking link can be found [here](#) or at the [conference website](#). We have compiled other hotels near the congress hotel for you in this form. Please use it to book your room. Please find the reservation form (pdf) for download at the [conference website](#).

Participant fees

On site

- Industry participant: 690 Euro plus VAT
- Research participant: 540 Euro plus VAT
- Industry speaker: 420 Euro plus VAT
- Academic speaker: 360 Euro plus VAT

Online

- Online participant: 200 Euro plus VAT
- Online speaker: 150 Euro plus VAT

Registration

Please use the registration form, send an e-mail to conference@dynamore.de or register online [here](#).



Hardware and software exhibition - online and onsite

More information under www.dynamore.de/exhibition2021.

Conference language

English

Cancellation fees

In case of cancellation by the participant

- until one month before the conference starts: free of charge

- up to two days before the conference starts: 50 %

From two days and no shows: 100 %

Replacement participants will be accepted.

A change of booking from online to on-site or vice versa is possible at any time.

Contact

DYNAMore Gesellschaft für FEM Ingenieurdienstleistungen mbH

Industriestr. 2

70565 Stuttgart, Germany

Tel.: +49 (0)711 - 45 96 00 - 0

Fax: +49 (0)711 - 45 96 00 - 29

E-Mail: conference@dynamore.de

www.dynamore.de

More information

www.dynamore.de/en/conf2021

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