

Full Agenda & List of Papers

Day 1 - WEDNESDAY 25TH May 2005

Time	Hall 5	Hall 6	Hall 7a	Hall 7b
08:00-09:20	Registration			
09:20-11:15	Session 1 Plenary Keynote Speakers			
11:15-11:45	Coffee			
11:45-13:00	Session 2a New Applications and Developments	Session 2b Material Technology	Session 2c ALE, FSI and SPH (1)	Session 2d Methods and Techniques (1)
13:00-14:15	Lunch			
14:15-15:30	Session 3a Modelling and Post-Processing (1)	Session 3b Computing Technology (1)	Session 3c Methods and Techniques (2)	Session 3d Crash Technology (1)
15:30-16:00	Coffee			
16:00-17:30	Session 4a Methods and Techniques (3)	Session 4b FE Dummy Models	Session 4c Code Developments	
19:00-	Conference Dinner with Pre-Dinner Drinks			

Day 2 - THURSDAY 26TH May 2005

Time	Hall 5	Hall 6	Hall 7a	Hall 7b
09:00-10:30	Session 5a Optimisation (1)	Session 5b Honeycomb and Barrier	Session 5c ALE, FSI and SPH (2)	Session 5d Composites
10:30-11:00	Coffee			
11:00-12:30	Session 6a Metalforming	Session 6b Modelling and Post-Processing (2)	Session 6c Methods and Techniques (4)	Session 6d Optimisation (2)
12:30-13:45	Lunch			
13:45-15:15	Session 7a Computing Technology (2)	Session 7b Crash Technology (2)		
15:15-15:45	Coffee			
15:45-17:30	Session 8 Plenary John Hallquist (LSTC)			

SESSION 1 – Plenary Session 1: Keynote Speakers**A View on the Technology of both Vehicle Content and the Product Creation Process for Supercars**

Hannemann N. (*Mclaren Automotive*)

Computational Biomechanics: A Challenge at the Engineering/Life Sciences Interface

Professor Middleton J. (*Cardiff University*)

Integrative Simulation for Crash Applications

Dr Glaser S. and Wüst A. (*BASF AG*)

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SESSION 2a – New Applications and Developments**Heat Transfer in LS-DYNA**

Shapiro A. (*Livermore Software Technology Corporation*)

MPP Implicit Computations for LS-DYNA v971

Grimes R., Ashcraft C., Lucas B (*Livermore Software Technology Corporation*)

A Study Concerning Precision of LS-DYNA Results

Feyereisen M., Zais J., Li G. (*IBM*)

SESSION 2b – Material Technology**A Failure Criterion For Polymers And Soft Biological Materials**

William W. Feng W., Hallquist J. O. (*Livermore Software Technology Corporation*)

Experience from Using a New Material Model for Stainless Steels with TRIP-effect

Daniel Hilding D. (*Engineering Research Nordic AB*)

Schedin E. (*Outokumpu Stainless AB, Avesta Research Centre*)

A Semi-Analytical Model For Polymers Subjected To High Strain Rates

Haufe A. (*DYNAMore GmbH*)

P.A. Du Bois P. A. (*Consulting Engineer*)

Kolling S. & Feucht M., (*DaimlerChrysler AG*)

SESSION 2c – ALE, FSI, SPH (1)**Simulation of Wave-Dissipating Mechanism on Submerged Structure using Fluid-Structure Coupling Capability in LS-DYNA**

Tokura S., Ida T. (*The Japan Research Institute, Ltd*)

Fluid Structure Interaction with *MAT_SOFT_TISSUE and EFG Elements

Bötticher R. (*TMB GmbH*)

The Influence Of Bird-Shape In Bird-Strike Analysis

McCallum S.C., Constantinou C. (*BAe Systems*)

SESSION 2d – Methods and Techniques (1)**Modeling of Welding Seam Sequences**

Sergey Medvedev S., Petrushina M., Tchij O. (*United Institute of Informatics Problems, National Academy of Sciences of Belarus Republic of Belarus, Minsk*)

Simulation of Self-Piercing Riveting Processes

Stühmeyer A. (*CAD-FEM GmbH*)

Numerical Simulation Of Ground Impact After Airdrop

de Lassat de Pressigny Y. (*Centre d'Essais en Vol, MinDef/DGA/DE*)
Lapoujade V. (*CRIL Technology*)

Finite Element Modelling Of The Static Axial Compression And Impact Testing Of Square CFRP Tubes In LS-DYNA3D

Papapostolou D. (*National Technical University of Athens*)

SESSION 3a – Modelling and Post-Processing (1)**General Considerations for the Influence of Mesh Density In LS-DYNA**

Dipl. Ing. Jankowski U., Dipl.-Ing. Sans M. (*Tecosim GmbH*)
Fairchild M. (*Tecosim Limited*)

Automatic Processes for Multiple Analyses

Thornton M., Bell C., Burton D., Davidson P., Dennis B., Hollamby R., Sturt R. (*Arup*)

Current Features of LS-PREPOST

Wynn D. (*Livermore Software Technology Corporation*)

SESSION 3b – Computing Technology (1)**Application of SynfiniWay Grid Platform for iterative LS-DYNA studies**

Deguemp E. (*Fujitsu Systems Europe*)
Adoum M., Lapoujade V. (*CRIL Technology*)

Benefits of Scalable Servers with Global Addressable Memory for Crash Simulation

Tanasescu C., Fox K. (*SGI*)

LS-DYNA performance on new computing choices from IBM

Li G., Zais J., Clifford G. (*IBM*)

SESSION 3c – Methods and Techniques (2)**Post-Test Simulation of Airliner Wing Access Panel Subject to Tyre Debris Impact**

Birch R.S., Karagiozova D., Mines R. A. W. (*University of Liverpool*)
Bergler C., Kracht M. (*CADFEM GmbH*)

Perforation of Composite Floors

Algaard W., Lyle J., Izatt C. (*Arup*)

A Computational and Experimental Analysis of Ballistic Impact to Sheet Metal Aircraft Structures

Loikkanen M. J. (*Boeing Commercial Airplanes*)
Buyuk M., Kan C. (*FHWA/NHTSA National Crash Analysis Center, The George Washington University*)
Meng N. (*SGI*)

SESSION 3d – Crash Technology (1)**Crash-tests simulations by LS-DYNA code on the HPC AMD64 Cluster**

Prof. Shabrov N., Prof. Mikhailov Y., Lopatukhin I. (*Computer Technologies in Engineering Dept., Saint Petersburg State Polytechnical University*)
Dr. Shmelev E., Dr. Kurdyuk S. (*AVTOVAZ Company, Russia*)

Crashworthiness of Conventionally Designed Railway Coaching Stock and Structural Modifications for Enhanced Performance

Xue X. (*AEA Technology Rail*)
Dr. Schmid F. (*University of Sheffield*)

Improvement Design of Vehicle's Front Rails for Dynamic Impact

Wu C., Tung C., Lee J. (*Automotive Research & Testing Center*)
Tsai C. C. (*China Motor Corporation*)

SESSION 4a – Methods and Techniques (3)**The "Shaken Baby" Syndrome; Computational Studies of a New Hypothesis of its Cause**

Cheng J., Cirovic S., Howard I. C., Yoxall A. (*Department of Mechanical Engineering, the University of Sheffield*)
Parsons M.A. (*Department of Ophthalmology and Orthoptics, the University of Sheffield*)

Developing FE-TIRE Model for Road Noise Simulation

Shiraishi M. (*SRI R&D Ltd.*)
Hayashi K. (*The Japan Research Institute, Ltd.*)

Numerical simulation the bottom structures grounding test by LS-DYNA

Zhang A., Suzuki K. (*Graduate School of Frontier Sciences, The University of Tokyo*)

SESSION 4b – FE Dummy Models**Development of a Numerical Model of an Anthropomorphic Test Device for the Study of Human Related Impact Events**

Elisa Oldani E., Fracasso E., Castelletti L. L., Anghileri M. (*Department of Aerospace Engineering, Politecnico di Milano*)

The Optimization of the LSTC Hybrid III Dummies to enhance the numerical stability and to fulfil the current standards

Lietz W. (*CAD-FEM GmbH*)

Comparison of Faceted Vs Ellipsoid Dummies in Frontal Crash Simulations

Hovenga P.E., Spit H.H., Kant A.R., Happee R. (*TNO Automotive Safety Solutions*)

WorldSID 50th - The Next Generation Side Impact Dummy

Shah B., Li Y. (*FTSS*)

Development of BioRID-II Dummy Model in Co-operation with the German Automotive Industry

Schuster P., Stahlschmidt S., Franz U. (*DYNAmore GmbH*)

SESSION 4c – Code Developments**An Assessment of the LS-DYNA Hourglass Formulations via the 3D Patch Test**

Schwer L. E. (*Schwer, Engineering & Consulting Services*)
Key S. W. (*FMA Development, LLC*)
Pulik T. A. (*Pulik Consulting Services*)
Bindeman L. P. (*Livermore Software Technology Corporation*)

Integrating LSTC and MSC.Software Technology for Explicit Dynamics and Fluid-Structure Interaction

Plugge E. (*MSC.Software Benelux B.V.*)

Deformable Rigid Bodies in LS-DYNA with Applications – Merits and Limits

Bitzenbauer J. (*Institute for Mechanics, University Karlsruhe*)
Franz U. (*DYNAmore GmbH, Stuttgart*)
Schweizerhof K. (*Institute for Mechanics, University Karlsruhe / DYNAmore GmbH*)

Acoustic and Vibroacoustic Modeling in LSDYNA Based on Variational BEM

Alia A. (*Laboratoire de Mécanique de Lille, LML, USTL*)
Souli M. (*Livermore Software Technology Corporation*)

SESSION 5a – Optimisation (1)**Multidisciplinary Optimisation and the Design for 6 Sigma - An Executive Summary**

Dr Zeguer T. (*Jaguar Cars Ltd*)

Shape Optimization of a Vehicle Crash-box using LS-OPT

Redhe M., Nilsson L. (*Engineering Research Nordic AB*)
Bergman F. (*Saab Automobile AB*)
Stander N. (*Livermore Software Technology Corporation*)

The Application of Optimization and Robustness Technology to a Martian Lander Concept

Sharp P., Jones R. (*Altair Engineering Limited*)
Slade R. (*Astrium Limited*)

New Features in LS-OPT Version 3.0

Stander N., Roux W. (*Livermore Software Technology Corporation*)

SESSION 5b – Honeycomb and Barrier**Failure Modes Analysis in the Crash Barrier Simulation**

Hou L. (*Cellbond Composites Ltd*)

A Study on Yielding Function of Aluminum Honeycomb

Kojima S. (*Toyota Communication Systems Co., Ltd*)
Yasuki T., Mikutsu S. (*Toyota Motor Corporation*)
Takatsudo T. (*The Yokohama Rubber Co., Ltd*)

Moving Beyond the Finite Elements: A Comparison between Finite Element Methods and Meshless Methods for Modeling Honeycomb Materials and Simulating Side Impact Moving Deformable Barriers (MDBs)

Buyuk M., Kildare S., Marzougui D., Kan C. (*FHWA/NHTSA, National Crash Analysis Center, The George Washington University*)

A Successive Inverse Approach to Identify the Constitutive Model Parameters and Mesh - Grid Dependency for Crashworthiness Modeling of Aluminum Honeycombs and Moving Deformable Barriers (MDBs)

Buyuk M., Kildare S., Marzougui D., Kan C. (*FHWA/NHTSA, National Crash Analysis Center, The George Washington University*)
Kurtaran H. (*Department of Design and Manufacturing Engineering, Gebze Institute of Technology*)

SESSION 5c – ALE, FSI, SPH (2)**Birdstrike onto the Composite Intake of a Turbofan Engine**

Anghileri M., Castelletti L. L., Invernizzi F., Mascheroni M. (*Department of Aerospace Engineering, Politecnico di Milano*)

External blast load on structures – Empirical approach

Le Blanc G., Adoum M., Lapoujade V. (*CRIL Technology*)

Fluid-Structure-Interaction Effects in Airbag Out-of-Position Load Cases: An introduction to the ALE-framework in LS-DYNA

Dr. Haufe A., Dr. Weimar K. (*DYNAmore GmbH*)

Simulation of Hydrodynamic Ram and Liquid Aeration

McCallum S.C, Townsend D.D. (*BAe Systems*)

SESSION 5d – Composites**Buckling and post-buckling analyses of stiffened composite shells with inter-laminar damages**

Korjakins A., Kara P., Kalnins K. (Institute of Materials and Structures, Riga Technical University)

Simulation of the Crash Performance of Crash Boxes based on Advanced Thermoplastic Composite

Dr.-Ing. Hörmann M. (*CADFEM GmbH*)
Dipl.-Ing. Wacker M. (*Jacob Composite GmbH*)

Numerical Simulation of Damage in Thermoplastic Composite Materials

Brown K., Brooks R., Warrior N. (*School of Mechanical, Materials and Manufacturing Engineering, University of Nottingham*)

Modelling of damage in composite materials using interface elements

Jiang W. G., Hallett S. R., Wisnom M. R. (*Department of Aerospace Engineering, University of Bristol*)

SESSION 6a – Metalforming**Tool Design for a High Strength Steel Side Impact Beam with Springback Compensation**

Dutton T. (*Dutton Simulation Ltd*)
Edwards R., Blowey A. (*Wagon Automotive Ltd*)

The Thick Shell Element for Metalforming and other Applications

Stühmeyer A. (*CAD-FEM GmbH*)

Recent Development for Metal Forming Simulation

Umezū Y., Ma N. (*The Japan Research Institute, Ltd*)

Use of Implicit Computations for Metalforming Applications

Grimes R., Zhu X. (*Livermore Software Technology Corporation*)

SESSION 6b – Modelling and Post-Processing (2)**The use of an Oasys PRIMER model management database during accelerated vehicle development programs such as the 2005 Ford GT**

Keer T., Iregbu S. (*Arup*)

Accelerating Regulatory Test Simulation with LS-DYNA through Process Automation

Sahlin P. (*ESI Group*)

Productivity Gain in Crashworthiness Simulation EASi-CRASH for Complete Safety and Crash Modeling for LS-DYNA

Shetty S., Sahlin P. (*ESI Group*)

Compression of LS-DYNA™ Simulation Results using FEMZIP®

Thole C. (*Fraunhofer Institute for Algorithms and Scientific Computing*)

SESSION 6c – Methods and Techniques (4)**Vehicle Roof Crush Modelling & Validation**

Mao M., Chirwa E. C., Chen T. (*The University of Bolton*)

Development of Orbital Debris Impact Protection Panels

Anghileri M., Castelletti L. L., Invernizzi F., Mascheroni M., Pigoli F.
(*Department of Aerospace Engineering, Politecnico di Milano*)

Modelling of the failure behaviour of windscreens and component tests

Sun D.-Z., Andrieux F., Ockwitz A. (*Fraunhofer Institute for Mechanics of Materials*)

Dr. Ing. Klamser H., Dr. Ing. Hogenmüller J. (*Porsche AG*)

SESSION 6d – Optimisation (2)**Validating Material Information for Stochastic Crash Simulation****Part 1: Quasi-Static Properties**

Wood P. K. C., Schley C. A., Kenny S. (*University of Warwick*)
Dutton T. (*Dutton Simulation*)

Side Member Crumple section simulation and structural optimisation

Chen T., Chirwa C., Wang W., Mao M. (*Bolton Automotive & Aerospace Research Group, The University of Bolton*)

On the Optimization of the Punch-Die Shape: An Application of New Concepts of Tools Geometry Alteration for Springback Compensation

Accotto A., Anedda G., Sperati M., Vadori R. (*Altair Engineering Srl*)

Topology optimization in crashworthiness design

Nilsson L. (*Engineering Research Nordic AB and Div. Solid Mechanics, University of Linköping*)

Forsberg J. (*Div. Solid Mechanics, University of Linköping*)

SESSION 7a – Computing Technology (2)**Grid-Based LS-DYNA Solutions**

Fong H. H., Edberg J. (*Sun Microsystems, Inc*)

The Applicability of the Universal HP-MPI to MPP LS-DYNA on Linux Platforms

Lin Y. (*Hewlett-Packard Company*)

Assessment of LS-DYNA Scalability Performance on Cray XD1

Zhu T. (*Cray Inc*)

Design and Implementation of a Multi-Fabric Message Passing Interface (MPI): Intel® MPI Library

Dr. D'Mello M. (*Intel Americas Inc*)

SESSION 7b – Crash Technology (2)

Further Improvements to the Truck Model for Roadside Safety Simulation – Suspension and Steering

Boesch D. A. (*Quartus Engineering Inc.*)
Reid J. D. (*University of Nebraska-Lincoln*)

Impact Analysis of a 16t Truck against different Road Safety Restraint Systems

Oldani E., Castelletti L. L., Anghileri M., Mongiardini M. (*Department of Aerospace Engineering, Politecnico di Milano*)

Modelling Study to Validate Finite Element Simulation of Railway Vehicle Behaviour in Collisions

Xue X. (*AEA Technology Rail*)
Dr Schmid F. (*University of Sheffield*)

A Process of Decoupling and Developing Body Structure for Safety Performance

Madakacherry J. M., Isaac M. B., Dr Bruggeman C. A. (*General Motors*)
Dr. Eby D. (*CD-Adapco*)
Dr. Farahani A. (*ETA, Inc.*)
Dr. Averill R. C. (*Red Cedar Technology*)

SESSION 8 – Plenary Session 2: Keynote Speaker

Current and future developments of LS-DYNA

Hallquist J.O (*Livermore Software Technology Corporation*)
