

Invitation and Agenda

Free of charge

LS-DYNA Developer Forum

24 September 2013

LS-DYNA User Forum

25 September 2013

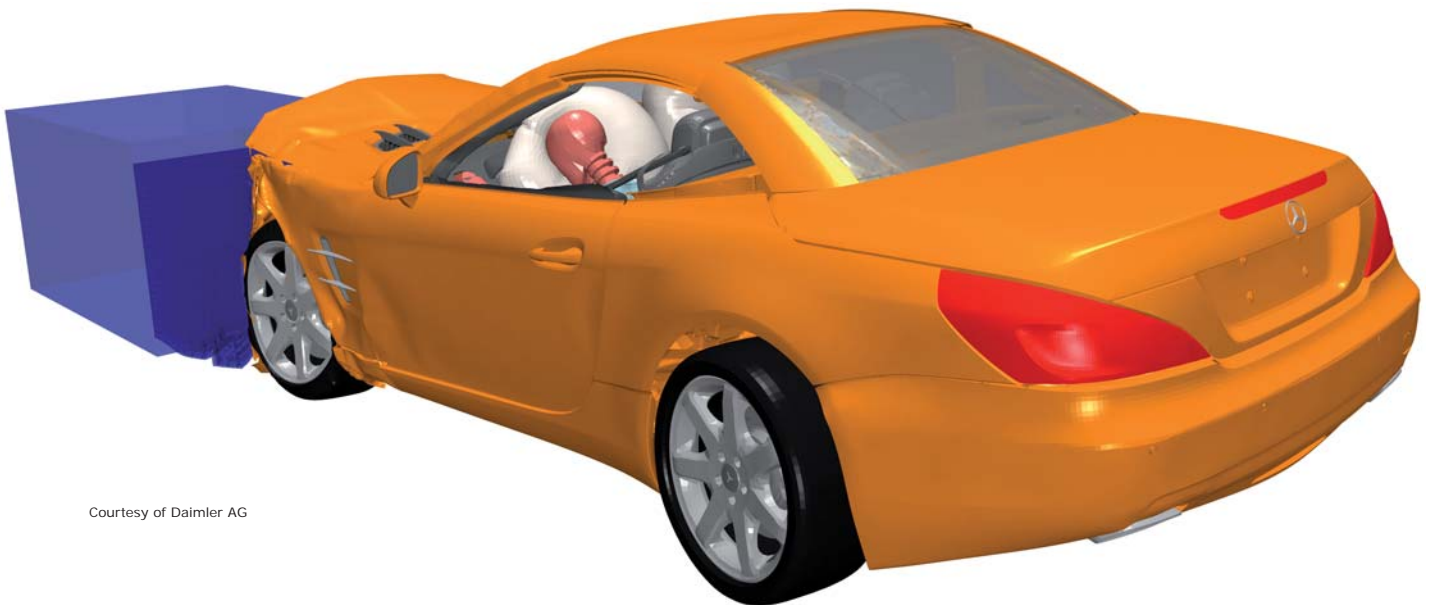
Filderstadt near Stuttgart, Germany

Additional LS-DYNA Forum Events

Info Event, 23 Sept.: Acoustics and NVH-Analysis with FEM and BEM

Workshop, 24 Sept.: Dynamic Characterization of Polymers

Seminar, 26-27 Sept.: ALE and Fluid-Structure Interaction



Courtesy of Daimler AG

Premium Sponsors



INVITATION

Dear Customer, dear Business Partner,

We warmly invite you to attend this year's LS-DYNA Forum (free of charge), which will be taking place at the FILharmonie in Stuttgart-Filderstadt in Germany from 24th – 25th September 2013. The forum is made up of two parts – the developer forum and the user forum. Seminars and workshops will also be held before and after the event.

LS-DYNA Developer Forum

At the LS-DYNA developer forum, you'll be able to find out more about the latest implemented innovations as well as about future developments of LS-DYNA and LS-OPT. To make sure you get first-hand information, program developers from LS-DYNA and LS-OPT will be giving the presentations.

LS-DYNA User Forum

The LS-DYNA user forum is taking place on 25th September; here, a selection of presentations will be given on application areas concerned with nonlinear analysis using LS-DYNA. For the event, we were able to attract speakers from the companies Basell, BASF, BMW, Daimler, Hyundai, Magna Steyr, Opel, Porsche, Toyota, ViF and Volkswagen as well as from the universities TU Dortmund and TH Mittelhessen. The presentations will give an excellent overview of current and future simulation requirements in the automotive sector. The main focus will be on modeling plastics, composites and high-strength steels and on the joining techniques of bonding and welding. This year, program developers Dr. Jason Wang and Dr. Brian Wainscott from LSTC will be giving a summary of the latest and planned developments in LS-DYNA and LS-OPT.

A hard- and software exhibition will be running parallel to the LS-DYNA forum. Here you can obtain comprehensive information about hardware and software around LS-DYNA. During the exhibition's „get together“ on the same evening as the developer forum, make the most of the opportunity to meet developers in an informal atmosphere to specifically discuss your wishes or just talk about your experiences.

As always during our events, members of DYNAmore staff will be available to answer questions and help with tips and tricks related to LS-DYNA products. Both events are free of charge and can be booked singly or together. To assist us with planning, please register promptly.

Forum Events

On the morning of 24th September, we invite you to attend a workshop on the dynamic characterization of polymers. As well as members of our staff giving presentations on typical material models in LS-DYNA and on optimizing the parameters involved, the company 4a engineering will be presenting its material testing machine 4a impetus. During the week of the forum events, we'll also be holding a free information day "Acoustics and NVH-Analysis with FEM and BEM in LS-DYNA" as well as a seminar "ALE and Fluid-Structure Interaction in LS-DYNA".

We hope we've awakened your interest and are looking forward to meeting you at the FILharmonie on 24 and 25 September.

Your DYNAmore team



Courtesy of Dr. Ing. h.c. F. Porsche AG

Developer Forum – Background Information and new Developments in LS-DYNA und LS-OPT

During the event of this afternoon, you'll be given the chance to obtain information about LS-DYNA und LS-OPT from the developers and exchange information with them. Many of the recent developments for the automotive industry in LS-DYNA und LS-OPT have been implemented by the developers who'll be present. It'll be well worth visiting the event to find out more about new features, their scientific basis and their application. Additionally, your ideas and wishes regarding program enhancements are always welcome.

13:30		Welcome Prof. K. Schweizerhof (DYNAmore GmbH/KIT)
13:35		Drilling Rotation Constraint for Shell Elements in Implicit and Explicit Analyses T. Erhart (DYNAmore)
13:55		Cosserat Point Elements in LS-DYNA T. Borrvall (DYNAmore Nordic)
14:25		Review of Shell Element Formulations in LS-DYNA: Properties, Limits, Advantages, Disadvantages A. Haufe (DYNAmore)
15:00		Current Status of Isogeometric Analysis in LS-DYNA S. Hartmann (DYNAmore)
15:20		Coffee Break
16:00		New Frequency Domain Features in LS-DYNA Y. Huang (LSTC)
16:30		New Developments to Capture the Manufacturing Process of Composite Structures in LS-DYNA T. Klöppel (DYNAmore)
17:00		New Features in SPH and ALE in LS-DYNA M. Souli (LSTC/Univ. Lille)
17:30		New Features in LS-OPT V5 K. Witowski (DYNAmore)
18:00		„Get together“ with beverages and snacks in the hardware and software exhibition (- 22:00)

Program subject to alterations

Sponsors of the LS-DYNA Forum

Premium			Platinum	
Gold				
Silber				

User Forum

The second day is devoted to LS-DYNA and LS-OPT users. This year once again, we've been able to attract top-class speakers for the presentations. A range of exciting contributions on current topics concerning vehicle safety and process simulation await you. You'll find out how other people carry out simulations, how new problems are approached and how they are dealt with.

08:45		Welcome U. Franz (DYNAmore)
08:55		Recent Developments in LS-DYNA J. Wang, <u>B. Wainscott</u> (LSTC)
09:30		Crashsimulation in der Fahrzeugentwicklung – Anforderungen an CAE und Software <u>M. Hermle</u> , M. Feucht (Daimler)
10:00		Coffee Break
10:40		Side Impact Simulations using THUMS and WorldSID T. Yasuki (Toyota Motor Corporation)
11:10		Eine effiziente CAE Prognose im Fußgängerschutz durch Einsatz von Optimierungstools <u>H. Kassegger</u> , <u>S. Engleder</u> (Magna Steyr Fahrzeugtechnik)
11:40		Anwendung der expliziten FEM in der Umformtechnik <u>Prof. A.E. Tekkaya</u> , H. Chen, L. Chen, O.K. Demir, S. Gies, A. Güner, A. Güzel, H. Hassan, K. Isik, S.P. Li, T. Mennecart, C. Soyarslan, F. Steinbach (TU Dortmund)
12:10		Lunch Break
		Parallel Presentations: Vehicle Safety
13:50		Aktuelle Fragestellungen bei der Modellierung von Kunststoffen Prof. S. Kolling (Technische Hochschule Mittelhessen)
14:15		Validation of a SAMP-1 Material Card for Polypropylene-based Materials <u>M. Nutini</u> , M. Vitali (Basell Polyolefine)
14:40		Die Nutzung von LS-DYNA und LS-OPT bei der Entwicklung von Bauteilen aus thermoplastischen Kunststoffen A. Wüst (BASF)
15:05		The Use of Anisotropic Plasticity for Extruded Aluminium in Crash Simulations Involving Failure P. Du Bois (Beratender Ingenieur)
15:30		Coffee Break – HPC-Forum – panel discussion in the exhibition area
16:15		Crashsimulation von Klebverbindungen des Rohkarosseriebaus <u>F. Burbulla</u> (Dr. Ing. h.c. F. Porsche); Prof. A. Matzenmiller (Universität Kassel)
16:40		Spotweld Modelling with Implemented Rupture Criteria <u>J. Morawski</u> , B. Lauterbach, I. Schwarzer, L. Ramon-Villalonga (Adam Opel)
17:05		Farewell T. Münz (DYNAmore)

Hardware and Software Exhibition

In the accompanying exhibition, you'll be able to obtain information about the latest products in the LS-DYNA and LS-OPT environment and discuss your wishes and ideas with hardware and software vendors.

The exhibition will be open in the afternoon of 24th September and all day on 25th September.








Exhibitors

- 4a engineering
- Altair Engineering
- Automotive Simulation Center Stuttgart asc(s)
- Cray Computer Deutschland
- DYNAmore
- e-Xstream engineering
- ESI
- Fujitsu
- GNS
- GOM Gesellschaft für Optische Messtechnik
- HBM
- Intel
- Inprosim
- Kompetenzzentrum ViF
- Kube Ingenieurbüro
- Lasso Ingenieurgesellschaft
- MSC.Software
- Nafems
- Parsolve
- transtec

Date: September

Parallel Presentations: Metal Forming – Process Simulation

13:50		Prediction of Failure in the Hemming Process of Aluminium Sheet Metal Alloy M. Zubeil (Daimler)
14:15		Simulation des partiellen Presshärtens und experimentelle Validierung durch ein Hut-Profil R. Helmholz, M. Medricky (Volkswagen); D. Lorenz (DYNAmore)
14:40		Charakterisierung von biege-beeinflußten Umformvorgängen in komplexen Tiefziehprozessen D. Schalk-Kitting (Kompetenzzentrum Das virtuelle Fahrzeug - ViF)
15:05		An Advanced Material Model for the Prediction of Phase Fractions and Part Properties in the Press Hardening Process M. Schill (DYNAmore Nordic); B. Hochholdinger (DYNAmore Swiss); D. Lorenz, T. Erhart (DYNAmore)
15:30		Coffee Break – HPC-Forum – panel discussion in the exhibition area
16:15		Forming Simulation of Fiber Reinforced Plastics at the BMW Group S. Kreissl (BMW Group)
16:40		Rate Dependency in *MAT_58 (Laminated Composite Fabric) J. Coulton (Hyundai Motor Europe Technical Center)
17:05		Farewell Prof. U. Göhner (DYNAmore)

Workshop: Dynamic Characterization of Polymers (Thermoplasts, Foams, Composites)

24th September, 8:45 - 12:15

Due to the great demand regarding the dynamic material characterization of polymers, we'll be holding a free workshop on this subject. Problems associated with determining material cards will be discussed in detail, an introduction to the material models used will be given and a live demonstration of the pendulum (impact) test rig 4a impetus made by 4a engineering GmbH presented.



Agenda

8:45

Welcome

A. Haufe (DYNAmore)

9:00

Einführung in die Charakterisierung und Modellierung von Kunststoffen

A. Haufe (DYNAmore)

9:30

Kurzvorstellung der Messmöglichkeiten mit 4a impetus

P. Reithofer (4a engineering)

9:45

Einfache Materialkartengenerierung mit 4a impetus mittels Neuronaler Netze für Schäume, Waben, ...

M. Rollant (4a engineering)

10:15

Coffee Break

10:45

Anpassung von Werkstoffmodellen für Polymere mittels dynamischer Pendelversuche

A. Förderer (DYNAmore)

11:15

Anpassung komplexer Fließflächen und Möglichkeiten der Versagensabbildung mit 4a impetus

P. Reithofer (4a engineering)

11:45

Dynamische Materialcharakterisierungen von Composites mit 4a impetus

P. Reithofer (4a engineering)

Location: Filderstadt

Language: German

Fee: Free of charge

Information Event:

Acoustics and NVH-Analysis with FEM and BEM

23rd September, 13:00 - 17:00

The goal of this information day is to provide a general overview on the simulation of acoustic phenomena, vibro-acoustic problems, NVH and other frequency-domain analyses. Besides the theoretical basic for numerical investigation, the current state-of-the-art technology for typical industrial problems will be presented and the possibilities, limits and future developments in LS-DYNA are discussed.

In LS-DYNA, acoustics simulations and general NVH-Analysis can be carried out using the boundary-element method (BEM) and the finite-element method (FEM). For this reason, it is possible to investigate acoustic and vibro-acoustic problems in the time as well as in the frequency domain. Based on these computations, quantities such as the acoustic pressure (Pa) and the sound pressure level (dB) can be analyzed.

Location: Stuttgart

Language: German/English

Fee: Free of charge

Seminar:

ALE and Fluid-Structure Interaction

26th - 27th September, 9:00 - 17:00

This course covers the features in the solver provided to analyse fluids and, in particular, the interaction of fluids and structures using the Arbitrary Lagrangian Eulerian (ALE) capabilities.

The theoretical background to fluid modeling in LS-DYNA is presented and illustrated with several practical applications. Problems solved during the workshop include tank sloshing, tank dropping (partially and completely filled), viscous flow in a channel, underwater explosion, bird strike, ship collision and acoustics in air and water. There is no deep knowledge of fluid dynamics required.

The lecturer, Prof. Dr. M. Souli, is a professor for numerical modeling of non-linear problems at the University of Lille in France. His main research topics are fluid dynamics and fluid-structure interaction. He is also senior developer at LSTC since many years and contributed significantly to the ALE implementation in LS-DYNA.

Location: Stuttgart

Language: English

Fee: 1,100 Euro plus VAT if applicable

If you have any queries regarding the seminars, please contact us on Tel +49 (0)7 11 - 45 96 00 - 0.

To register, please use the attached registration form or the online registration form at www.dynamore.de/seminare, or send an e-mail to forum@dynamore.de.

REGISTRATION FORM

Please complete and fax to: +49 (0) 7 11 - 45 96 00 - 29
or copy and send to: DYNAmore GmbH, Industriestr. 2, D-70565 Stuttgart, Germany

I herewith register for the LS-DYNA Forum (free of charge):

- [LS-DYNA Developer Forum](#)
24 September 2013 (afternoon)
- [Get together](#)
24 September 2013 (evening)
- [LS-DYNA User Forum](#)
25 September 2013 (full day)

I herewith register for the following additional event:

- Information event (free of charge): [Acoustics and NVH-Analysis with FEM and BEM in LS-DYNA](#)
23 September, Stuttgart
 - Workshop (free of charge): [Dynamic Characterization of Polymers](#)
24 September (morning), Filderstadt
 - Seminar: [ALE and Fluid-Structure Interaction](#)
26 - 27 September, Stuttgart, registration fee: 1,100 Euro plus VAT if applicable
- Please send us [exhibitor](#) information.
- Please send us information about [sponsoring opportunities](#).

SENDER

Company/university: _____

Department: _____

Name: _____ First name: _____

Street: _____ Zip code, city: _____

Country: _____ Tel.: _____

Fax: _____ E-Mail: _____

Date: _____ Signature: _____

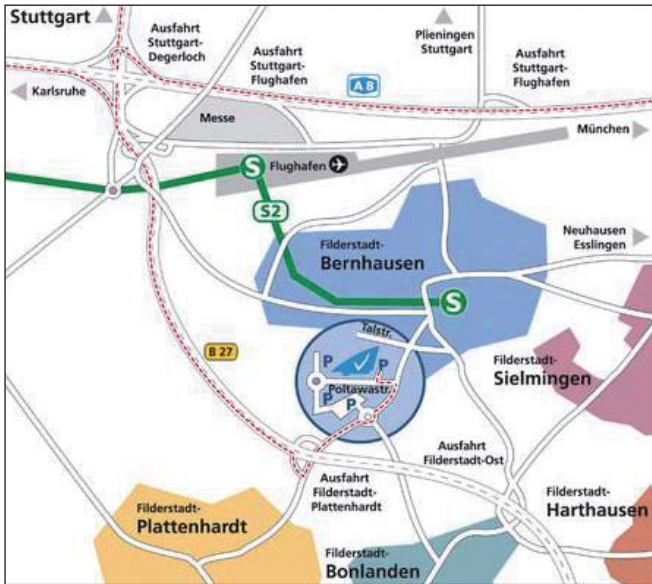
Online registration at www.dynamore.de/forum13-e

Data protection and competition law declaration of consent:

With your registration you allow us the use and the processing of your data for the seminar organization and for contact for our own promotional purposes. In addition you agree, that your name and your company affiliation will be listed on the attendee list. You may at any time revoke these commitments. For this, please contact DYNAmore GmbH by telephone or in writing.

Conference Venue

FILharmonie Filderstadt (near Stuttgart)
 Tübinger Straße 40
 D-70794 Filderstadt, Germany
www.filharmonie-filderstadt.de



You can reach the FILharmonie easily via the Stuttgart-Munich A8 freeway (take the B27 exit in the direction of Reutlingen/Tübingen, exit at Filderstadt-West/Plattenhardt/FILharmonie). From the main Stuttgart railway station, take the S2 tram to Filderstadt (Endstation). If traveling by bus, take the Number 37 which stops directly in front of the FILharmonie.

Registration Fee

The LS-DYNA developer forum, the „get together“ and LS-DYNA user forum are all free of charge. However, please register to assist us with planning. Events can be booked separately.

Hardware and Software Exhibition

Please request information if you are interested in participating in the LS-DYNA forum exhibition on 24th September from 13:00 onwards and on 25th September from 08:30.

Language

German and English

Registration / Confirmation

Please use the registration form or register online under www.dynamore.de/forum13.

Informationen

You can find out more about the LS-DYNA forum under www.dynamore.de/forum13.

DYNAmore GmbH

DYNAmore is dedicated to support engineers to solve non-linear mechanical problems numerically. Our tools to model and solve the problems are the finite-element software LS-DYNA as solver and LS-OPT for optimization.

We sell, teach, support, and co-develop the software LS-DYNA and LS-OPT. In addition we provide engineering services for numerical analysis and integrate simulation software in your CAE environment. The majority of our customers are from the automotive and aerospace industry.

Portfolio

- Software solutions
- Methods and software development
- Support and consulting
- CAE services
- IT solutions for CAx processes and data management
- Trainings and information events
- Conferences

Contact

DYNAmore GmbH
 Headquarters
 Industriestr. 2
 D-70565 Stuttgart, Germany
 Tel. +49 (0) 7 11 - 45 96 00 - 0
 Fax +49 (0) 7 11 - 45 96 00 - 29
 E-Mail: info@dynamore.de
www.dynamore.de

You will find DYNAmore also in Berlin, near Wolfsburg, in Ingolstadt, Dresden, Linköping, Göteborg and Zürich.



Bild mit freundlicher Genehmigung: Adam Opel AG



DYNAmore GmbH — Gesellschaft für FEM Ingenieurdienstleistungen

Headquarters

DYNAmore GmbH
Industriestr. 2
D-70565 Stuttgart, Germany
Tel.: +49 (0)711 - 45 96 00 - 0
Fax: +49 (0)711 - 45 96 00 - 29
E-Mail: info@dynamore.de
www.dynamore.de

Office Ingolstadt
DYNAmore GmbH
Donaustr. 7
D-85049 Ingolstadt, Germany
Tel.: +49 (0)841 - 12 60 48 - 34
Fax: +49 (0)841 - 12 60 48 - 38

Office Dresden
DYNAmore GmbH
Pohlandstraße 19
D-01309 Dresden, Germany
Tel.: +49 (0)351 - 31 20 02 - 0
Fax: +49 (0)351 - 31 20 02 - 29

Office North
DYNAmore GmbH
Im Balken 1
D-29364 Langlingen, Germany
Tel.: +49 (0)50 82 - 9 14 00 - 51
Fax: +49 (0)50 82 - 9 14 00 - 49

Office Berlin
DYNAmore GmbH
Stralauer Platz 34
D-10243 Berlin, Germany
Tel.: +49 (0)30 - 20 68 79 10
Fax: +49 (0)30 - 20 07 83 82

Offices on-site

Daimler AG, Sindelfingen
Tel.: +49 (0)70 31 - 81 31 91

Daimler AG, Untertürkheim
Tel.: +49 (0)711 - 45 96 00 - 20

Subsidiaries

Sweden

DYNAmore Nordic AB
Brigadgatan 14
SE-587 58 Linköping, Sweden
Tel.: +46 (0)13 - 23 66 80
Fax: +46 (0)13 - 21 41 04
E-Mail: info@dynamore.se
www.dynamore.se

Switzerland

DYNAmore Swiss GmbH
Technoparkstrasse 1
CH-8005 Zürich, Schweiz
Tel.: +41 (0)44 - 6 33 61 62
Fax: +41 (0)44 - 6 33 13 94
E-Mail: info@dynamore.ch
www.dynamore.ch

Office Göteborg

DYNAmore Nordic AB
Lindholmospiren 3
SE-417 56 Göteborg, Sweden
Tel.: +46 (0)31 - 3 01 23 80

