

FEA Information Engineering Solutions Volume 2, Issue 09, September 2013



#### LSTC

Call For Papers 13th International LS-DYNA® Users Conference

#### CRAY

Japan's Railway Technical Research Institute Puts Multiple Cray Supercomputers Into Production

#### **Ford Motor Company**

Auction Prototype of the 2014 Mustang Cobra Jet



**FEA Information** Inc. is a publishing company founded April 2000, incorporated in the State of California July 2000, and first published October 2000. The initial publication, FEA Information News continues today as FEA Information Engineering Solutions. The publication's aim and scope is to continue publishing technical solutions and information, for the engineering community.

#### **FEA Information Inc. Publishes:**

FEA Information Engineering Solutions

FEA Information Engineering Journal

FEA Information China Engineering Solutions

#### **FEA Information Engineering Solutions:**

A monthly publication in pdf format sent via e-mail, additionally archived on the website FEA Publications. <u>www.feapublications.com</u>

#### **FEA Information China Engineering Solutions**

The first edition was published February 2012. It is published in Simplified and Traditional Chinese in pdf format. Published : February, April, June, August, October, December. The China Solutions is archived on the website FEA Publications. <u>www.feapublications.com</u> To sign up for the Traditional, or Simplified edition write to <u>yanhua@feainformation.com</u>

#### FEA Information Engineering Journal: ISSN #2167-1273, first published February, 2012

Available on <u>www.feaiej.com</u>

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## **Platinum Participants**



















LSTC Livermore Software Technology Corp.

<u>www.oasys-</u> software.com/dyna/en/





LANCEMORE Co. www.lancemore.jp/index\_en.html



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Announcements

## LSTC – Call For Papers 13<sup>th</sup> International LS-DYNA® Users Conference Sponsorships and Exhibitor Booths are now available/ Contact <u>vic@lstc.com</u> for Sponsorship brochure

#### 2013 ANSA & µETA North American Open Meeting - October 2nd, 2013

#### CRAY

Japan's Railway Technical Research Institute Puts Multiple Cray Supercomputers Into Production

Our Participant Website Showcase -

Lancemore, BETA CAE-Systems, DataPointLabs, Shanghai Hengstar

## If you would like to be a participant in FEA Information Engineering Solutions contact <u>mvictory@feainformation.com</u>

#### Sincerely, Marsha Victory, Trent Eggleston - FEA Information Inc.



The raccoon is beginning to smell an odd scent in the air.

Question: Anyone know why?

Answer: Skunk is joining them for dinner.

Night animals at the ranch.

### Review

#### September 23, 2013 FEA Information Engineering Solutions

- R7 New Multiphysics Solvers
- Kaizenat Course Information
- Website Showcase OAYSIS
- Comet Solutions Workspace
- Fujitsu Receives Order from Canon

### August 2013 FEA Information Engineering Solutions

- FEAIEJ Chosen July Paper Evaluation of a dummy design by using a human body model
- Lancemore Co. YouTube Updated
- ESI Software Visual-Environment
- Jet Fighters
- KOSTECH Conference Pictures
- KAIZENAT Announcement Mr. Pravin Gurav/Mr. Nanda Kumar join Kaizneat

## Ford Motor Company

## Ford Motor Company

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Ford Motor Company to Auction Prototype of the 2014 Mustang Cobra Jet for National Multiple Sclerosis Society at Barrett-Jackson Las Vegas

- Ford is selling a one-of-a-kind prototype of the NHRA competitionready 2014 Mustang Cobra Jet at Barrett-Jackson Las Vegas to benefit the National Multiple Sclerosis Society
- The sale includes an once-in-a-lifetime Mustang experience. The winning bidder will become an honorary member of Team Mustang with full backstage passes to the Ford Product Development Center, Ford Design Studios and Ford Racing
- Ford to also offer Ride-and-Drives and hot laps at Mandalay Bay Event Center

featuring the Shelby GT500, Boss 302 Mustang, Focus ST, Fiesta ST, and Shelby American-built GT350, GT500 Super Snake and Shelby Focus ST for rare hot-lap experiences

Ford Motor Company will join Barrett-Jackson Auction Company among the Las Vegas lights from Sept. 26-28, 2013 to sell the star of the show – a one-of-a-kind prototype of the NHRA competition-ready 2014 Mustang Cobra Jet. The Cobra Jet will be sold at no reserve on Saturday, Sept. 28, with proceeds benefiting the National Multiple Sclerosis Society.

## Ford Motor Company

## Ford Motor Company

2014 Mustang Cobra

© reprint https://media.ford.com/content/fordmedia/fna/us/en.html

The NHRA-legal vehicle can instantly make competitors a force in the sport. This unique car is powered by a 5.0-liter supercharged V8 mated to a T4 racing transmission, and boasts an optional traction "wheelie" bar, 8.50 ET certified chrome-moly safety cage, exclusive Cobra Jet-branded Weld wheels, three-link rear suspension, lightweight racing brakes, 9-inch rear axle, and custom Cobra-branded Recaro seats. The purpose-built factory race car was the prototype for the 2014 model year racer, and carries a unique serial number of #2014 BJMS CJXX1. Clad in a fiery orange satin finish with dark gray reflective stripes, it also bears a distinctive license plate with the National Multiple Sclerosis Society's logo.

"The money to found Ford Motor Company came from Henry Ford's only race as a driver, so you could say motorsports is in our blood," says Dave Pericak, Mustang chief engineer. "This Cobra Jet is an awesome factory turn-key performer at the drag strip. It's capable of approximately nine-second quarter mile runs as delivered from Ford. And we will include several once-in-a-lifetime experiences to the winning bidder. For example, few get to see the workings of inner the Ford Product Development Center and Ford Racing to learn

how to leverage the Cobra Jet's power. This information can then be taken to the track to immediately break into competitive racing."

### The winning bidder also will enjoy:

- Training at Roy Hill's Drag Racing School in Sophia, N.C.
- Tour of the Ford Product Development Center and Ford Racing with Mustang Chief Engineer Dave Pericak, including a backstage pass into the Ford Design Studios
- Their experience captured for a future Mustang book and documentary
- Video of the vehicle build, testing and the action from Barrett-Jackson Las Vegas

"We're proud to offer the opportunity for a serious competitor to up their game with this Mustang Cobra Jet," says Steve Ling, North America car marketing manager for Ford. "But, just as important, we're honored the proceeds will support the National Multiple Sclerosis Society's work with those living with this disabling disease of the central nervous system. Through our long-standing relationship with Barrett-Jackson, we continue to support charities through exceptional vehicle sales."

### Ford Motor Company

**2014 Mustang Cobra** 

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In fact, last month at the Hot August Nights Auction Presented by Barrett-Jackson, Ford auctioned the last retail 2014MY Ford Shelby GT500 convertible to support the Brain Injury Association of America, an organization championed by 1963 Indianapolis 500 winner Parnelli Jones. Other organizations supported by Ford have included the Carroll Shelby Foundation and Juvenile Diabetes Research Foundation.

During the auction, Ford will offer the public Ride-and-Drive and hot-laps experiences at the Mandalay Bay Event Center. The Ride-and-Drive will feature Ford's elite stable of vehicles. For power junkies, the Shelby GT500, Boss 302 Mustang, Focus ST, Fiesta ST, and Shelby American-built GT350, GT500 Super Snake and Shelby Focus ST will make a rare appearance at the hot-laps experience.

For auction information, visit the Barrett-Jackson website or Facebook. For news on the Cobra Jet, please visit fordracingparts.com/cobrajet.

## 2013 ANSA & µETA North American Open Meeting - October 2nd, 2013 The Inn at St. John's, Plymouth (MI), USA

BETA CAE Systems S.A. and BETA CAE Systems USA Inc. invite you to the 2013 ANSA &  $\mu$ ETA North American Open Meeting



### Feature display

2013 Ohio State Venturi Buckeye Bullet (VBB3)

During this event you will have the opportunity to participate in sessions on the latest developments and real case applications, on various CAE disciplines, of ANSA, µETA, and our new product SPDRM (Simulation Process Data and Resources Manager). Among the numerous presentations are those of BASF, Chrysler Corporation, Ford Motor Company, Navistar, Ohio State University, Oakland University and Keyvan Tahmasebi.

Following the event's closing, the "Technical Discussions" session will offer you the opportunity to discuss with our engineers the software features, their application, and the future developments.

BETA CAE Systems S.A. and BETA CAE Systems USA, Inc. would like to extend their appreciation to Marios Lambi, Manager, Advanced Development & Computer Aided Engineering, BASF Engineering Plastics, for his contribution to the success of this event, as a keynote speaker.

**There is no participation fee for this event.** Please, register using this form no later than Friday, September 27th, 2013.

The attire will be business casual. Breakfast, coffee servings, lunch and reception are courtesy of BETA CAE Systems USA, Inc.

#### ANSA & µETA

### North American Open Meeting

Complete Preliminary Agenda is located at: http://www.beta-cae.gr/news/20130909 announcement 2013 naom.htm

#### Introduction

John Skarakis, President and Technical Director, BETA CAE Systems USA, Inc.

Welcome: Dimitris Angelis, President, BETA CAE Systems SA

**Company Presentation & Product Roadmap** Sam Saltiel, Chief Communications Officer, BETA CAE Systems SA

**Keynote speech by Marios Lambi,** Manager, Advanced Development & Computer Aided Engineering, BASF Engineering Plastics

Simulation, Process, Data & Resources Management (SPDRM) V1.0 - CAE Workflow Management becomes reality Maria Stampouli, BETA CAE Systems SA

ANSA & µETA Latest Developments Arthur Papadopoulos, BETA CAE Systems USA

**Trends in pre processing model build-up** Giannis Haralampidis, BETA CAE Systems SA

**Re-Analysis Methods for Gauge, Shape and Topology Optimization in NVH -** Professor Zissimos Mourelatos, Oakland University

ANSA & µETA Latest Developments in CFD - Pravin Peddiraju, BETA CAE Systems USA **CFD Preprocessing for Thermal Fluid Analysis of Vehicle Thermal Management Systems at Navistar** - Qin Yang, Navistar

Ohio State Venturi Buckeye Bullet 3 - A CFD casestudy - Casie Clark, David Cooke -Ohio State University

**NVH Cofiguration Complexity Handling using ANSA -** Sundar Chanduri, Chrysler Corporation

**Radiator Shape Optimization using ANSA** Rodolfo Palma, Ford Motor Company

**Durability Oil Canning and Denting Analysis using ANSA & µETAPost** Gurudutt Ventakesh, Chrysler Corporation

High Quality, Simplified Modeling Setup for an Exahust System CFD Analysis Keyvan Tahmasebi, Consultant

**Streamline Process for creating a resultsbased Optimized Mesh** Vassilis Pavlidis, BETA CAE Systems SA

**Driving Multidisciplinary Optimization Using ANSA - End user Case Studies** Ravi Nimbalkar, BETA CAE Systems USA

ANSA & µETA as a CAE Software Development Platform Giannis Haralampidis, BETA CAE Systems SA

#### **Cray Inc.**

#### RTRI

#### Cray Inc.

http://investors.cray.com/phoenix.zhtml?c=98390&p=irol-newsArticle\_print&ID=1852164&highlight=

# Japan's Railway Technical Research Institute Puts Multiple Cray Supercomputers Into Production



SEATTLE, WA -- (Marketwired) -- 09/05/13 -- Global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced that the Railway Technical Research Institute (RTRI) in Japan has put a Cray XC30-AC supercomputer, a Cray CS300 cluster supercomputer and a Cray Sonexion storage system into production. Researchers and engineers at RTRI combined the Cray CS300 cluster supercomputer and the Cray XC30-AC supercomputer into one virtual system performing complex simulations aimed at advancing railway technologies.

Based in Tokyo, RTRI is a railway research organization with focused research and development efforts that are intended to bring new innovations to railway-related science and technology. RTRI's new Cray XC30-AC supercomputer is the Institute's primary high performance computing system, and is providing its researchers and engineers with a powerful tool for running the advanced supercomputer-based simulations that are vitally important to RTRI. The Cray CS300 system functions as a general-purpose applications server for the Institute.

"High performance computing is a critical element of our R&D initiatives, and after a series of reviews to determine the nextgeneration supercomputing solution to be the successor to our current system, we once again turned to Cray," said Hideyuki Takai, Executive Director of RTRI. "The flexibility, reliability, scalability and power efficiency of the Cray supercomputing systems played an important role in our decision, and we are pleased that our researchers and engineers will continue to have the computational tools necessary for performing our daily R&D activities."

## Cray Inc.

"The Cray XC30-AC and the CS300 cluster supercomputer are complimentary systems, and the approach RTRI has taken is compelling. By combining both products into one supercomputing system, RTRI has created a price/performance solution that best meets the needs of their applications," said Mamoru Nakano, president of Cray Japan. "RTRI is one of our company's long-standing commercial customers in Japan, and we are pleased that through our collaborative relationship, the Institute will continue to apply the computational power of Cray supercomputers towards the development of new railway technologies."

The Cray supercomputing system at RTRI has a peak performance of more than 100 teraflops, and the Cray Sonexion scale-out Lustre system includes 220 terabytes of capacity and 10 gigabytes per-second of applications performance.

Additional information on the Cray XC30-AC supercomputer, the Cray CS300 cluster supercomputer and the Cray Sonexion storage system can be found at www.cray.com.

About RTRI: The RTRI is a unique and comprehensive railway research organization conducting various kinds of innovative research projects from fundamental to practical application stages in the wide range of the fields of rolling stock engineering, civil engineering, electrical engineering, information technology, materials sciences, environmental engineering and human sciences. The institute was established on December 10, 1986 to take over the R&D activities of the Japanese National Railways (JNR) just before the privatization and division of the JNR. The RTRI started its R&D activities with the inauguration of Japan Railway Companies (JR) on April 1, 1987 as one of the inheriting organizations of the JNR.

About Cray Inc.: Global supercomputing leader Cray Inc. (NASDAQ: CRAY) provides innovative systems and solutions enabling scientists and engineers in industry, academia and government to meet existing and future simulation and analytics challenges. Leveraging 40 years of experience in developing and servicing the world's most advanced supercomputers, Cray offers a comprehensive portfolio of supercomputers and Big Data storage and analytics solutions delivering unrivaled performance, efficiency and scalability. Cray's Adaptive Supercomputing vision is focused on delivering innovative next-generation products that integrate diverse processing technologies into а unified architecture, allowing customers to meet the market's continued demand for realized performance. Go to www.cray.com for more information.

Cray is a registered trademark of Cray Inc. in the United States and other countries, and Cray XC30-AC, Cray CS300 and Sonexion are trademarks of Cray Inc. Other product and service names mentioned herein are the trademarks of their respective owners.

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Cray	Investors:	Paul	Hier	mstra	206/701-2044
ir@cray.com Source: Cray Inc.					

## 13<sup>th</sup> International LS-DYNA<sup>®</sup> Users Conference - June 08-10<sup>th</sup>, 2014

#### Call For Papers - papers@lstc.com

Livermore Software Technology Corporation (LSTC) is pleased to bring engineers, professors, students, consultants, industry leaders and interested parties together at the 13<sup>th</sup> International LS-DYNA<sup>®</sup> Users Conference to be held at the Adoba Hotel (formerly the Hyatt Regency) Dearborn, MI.

Abstract Deadline:	email your abstract to:	Notification:	
11/11/2013	papers@lstc.com	No later than 12/15/2013	
Paper Deadline: March 05, 2014	The presenter of each accepted paper will receive free admission to the conference, provided that the presenter registers for a room at the Adoba Hotel under LSTC Conference registration.		

#### Application Areas Being Accepted for Paper Submission:

Approximately 300 words; please include figures, if possible					
Aerospace	Heat Transfer	Seismic Engineering			
Automotive	<ul> <li>Impact and Drop</li> </ul>	Ship Building			
Crashworthiness	Testing				
Ballistic and Penetration	<ul> <li>Manufacturing</li> </ul>	Transportation			
	Processes				
Biomechanics	<ul> <li>Metal Forming</li> </ul>	<ul> <li>Virtual Proving</li> </ul>			
		Ground			
Civil Engineering	Modeling Techniques				
Compressible Fluid	Nuclear Applications				
Dynamics					
Electromagnetics	Occupant Safety				

Paper Length: Maximum of 3000 words, single-spaced, on 8-1/2" x 11" paper

Format: A MS Word template will be provided

Contact: papers@lstc.com

#### Livermore Software Technology Corporation

(925) 449-2500 www.lstc.com www.ls-dynaconferences.com

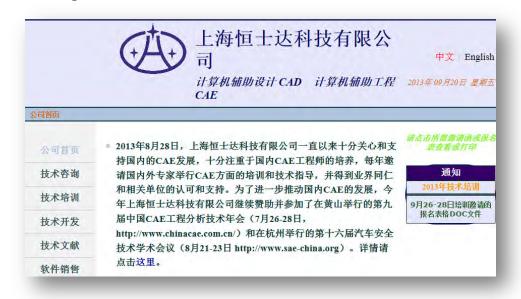
Website Showcase

### Website Showcase

#### www.datapointlabs.com

expert material testing	(accationres) 1242.01 Testing
out Us Test Catalog CAE	Partners Policies Industries Research Newsletter Contact us Sitemap Register
design propert	ies for CAE
forming hyperelasti	c crash fatigue molding extrusion
tant quotes	Highlights Testimonials
Test Catalog	Highlights A International Sales
	<ul> <li>See you at Digimat Users' Meeting 2013 - October 9-10, Liege, Belgium</li> </ul>

#### www.hengstar.com



#### Website Showcase

#### Website Showcase

#### www.lancemore.jp/index en.html



#### www.beta-cae.gr





24 – 25 September 2013

Filderstadt (Stuttgart), Germany www.dynamore.de/forum13-e

DYNAmore invites you to attend the 12<sup>th</sup> LS-DYNA Forum (free of charge), which will take place in Stuttgart-Filderstadt, Germany.

The event consists of two parts, i.e., the "Developer Forum" focusing on background information and new developments in LS-DYNA and LS-OPT and the "LS-DYNA User Forum" where renowned speakers are invited to present their applications. Seminars and workshops will also be held before and after the event.

#### LS-DYNA Developer Forum on 24 September 2013

During this afternoon, participants have the chance to obtain first-hand information from program developers of LSTC and DYNAmore on the latest innovations and future developments in LS-DYNA and LS-OPT. It will be well worth visiting the event to find out more about new features, their scientific basis as well as their application. Additionally, your ideas and wishes are welcome and we encourage you to engage in open exchanges.

## LS-DYNA User Forum on 25 September 2013

Exciting contributions from the companies Basell, BASF, BMW, Daimler, Hyundai, Johnson Controls, Magna Steyr, Opel, Porsche, Toyota, ViF and Volkswagen as well as from the universities TU Dortmund and TH Mittelhessen will give an excellent overview of current and future simulation requirements concerning vehicle safety and process simulation. The main focus will be on modeling plastics, composites and ultrahighstrength steels as well as on the joining techniques of bonding and welding. This year, the program developer Dr. Brian Wainscott from LSTC will be giving a summary on recent developments in LS-DYNA.

#### Hardware and Software Exhibition

A hard- and software exhibition will be running parallel to the LS-DYNA Forum.

#### Workshop on Dynamic Material Characterization

The determination of material cards is discussed and an introduction to the associated material models is given besides a live demonstration of the pendulum test rig 4a impetus.

Date: Morning of 24 September; Registration: www.dynamore.de/ws-kunststoffe-reg-e

## LS-DYNA Forum 2013

Seminars held by LSTC Developers on Advanced Modeling Techniques in LS-DYNA

• EFG/SPH – Meshless Methods in LS-DYNA Seminar, 12-13 September, www.dynamore.de/meshless13e

<u>www.dynamore.de/meshless13e</u> Lecturer: Dr. C.-T. Wu (LSTC developer for EFG and SPH)

- Acoustics with FEM and BEM in LS-DYNA Information day (free of charge), 23 September, <u>www.dynamore.de/2013-infoaku-e</u> Lecturer: Dr. Y. Huang (LSTC developer for acoustics)
   ALE and Fluid-Structure Interaction in
- ALE and Fluid-Structure Interaction in LS-DYNA Seminar, 26-27 September,

www.dynamore.de/ALE13e Lecturer: Prof. Dr. M. Souli (LSTC/Univ. Lille, developer for ALE/FSI)

DYNAmore is looking forward to seeing you in Filderstadt.

**DYNAmore** 



MORE

## LS-DYNA Forum 2013

## **DYNAmore**

DYNAmore

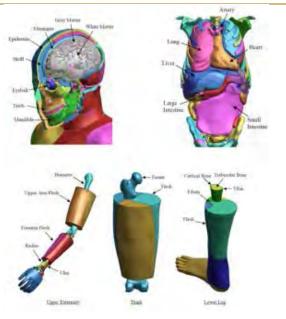
Webinar	Date	Location
Sheet metal forming, DYNAform/LS-DYNA	15 October, 13-15	WEB
Sheet metal forming, FTI Software	22 October, 10-12	WEB
Composite modeling in LS-DYNA, #1	TBD – more info later	WEB
Composite modeling in LS-DYNA, #2	TBD – more info later	WEB
Composite modeling in LS-DYNA, #3	TBD – more info later	WEB
ANSA #1, basic geometry handling	5 November, 10-12	WEB
ANSA #2, Model set-up in LS-DYNA	20 November, 13-15	WEB
mETApost #1, basic post processing	5 December, 10-12	WEB
Courses	Date	Location
ALE and FSI	26 September	Stuttgart
LS-DYNA Implicit Analysis	1 October	Göteborg
LS-DYNA, Simulation of sheet metal forming processes	8 October	Linköping
Contacts in LS-DYNA,	15 October	Göteborg
Introduction to ANSA & mETA	22 October	Linköping
Crash Analysis	5 November	Linköping
Introduction to Composite Modeling	12 November	Linköping
Material Failure	19 November	Linköping
Introduction to LS-PrePost	25 November	Linköping
Introduction to LS-DYNA	26 November	Linköping
Concrete and Geomaterial Modeling	5 December	Ulm
Explosives Modeling for Engineers	9 December	Stuttgart
Blast Modeling	10 December	Stuttgart
Penetration Modeling	12 December	Stuttgart
Crash Analysis	17 December	Stuttgart

## Total Human Model for Safety - THUMS LSTC is the US distributor for THUMS

#### About

The Total Human Model for Safety, or THUMS®, is a joint development of Toyota Motor Corporation and Toyota Central R&D Labs. Unlike dummy models, which are simplified representation of humans, THUMS represents actual humans in detail, including the outer shape, but also bones, muscles, ligaments, tendons, and internal organs. Therefore, THUMS can be used in automotive crash simulations to identify safety problems and find their solutions.

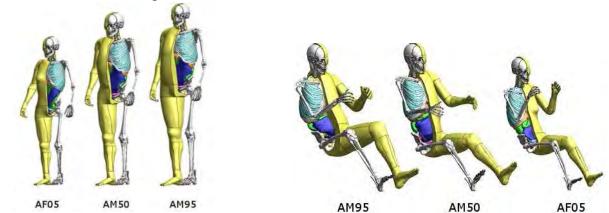
THUMS is limited to civilian use and may under no circumstances be used in military applications.



**Model Details:** Each of the different sized models is available as sitting model to represent vehicle occupants and as standing model to represent pedestrians.

The internal organs were modeled based on high resolution CT-scans.

**LSTC is the US distributor for THUMS**. Commercial and academic licenses are available. For more information please contact us at <u>THUMS@lstc.com</u>.



THUMS®, is a registered trademark of Toyota Central R&D Labs.

#### BETA CAE Systems S.A.

#### www.beta-cae.gr

#### BETA CAE Systems S.A.– ANSA

Is an advanced multidisciplinary CAE pre-processing tool that provides all the necessary functionality for full-model build up, from CAD data to ready-torun solver input file, in a single integrated environment. ANSA is a full product modeler for LS-DYNA, with integrated Data Management and Process Automation. ANSA can also be directly coupled with LS-OPT of LSTC to provide an integrated solution in the field of optimization.

#### BETA CAE Systems S.A.– µETA

Is a multi-purpose post-processor meeting diverging needs from various CAE disciplines. It owes its success to its impressive performance, innovative features and capabilities of interaction between animations, plots, videos, reports and other objects. It offers extensive support and handling of LS-DYNA 2D and 3D results, including those compressed with SCAI's FEMZIP software

### CRAY

#### http://www.cray.com/Products/Products.aspx

#### The Cray XK6

The Cray XK6 supercomputer combines Cray's proven Gemini interconnect, AMD's leading multi-core scalar processors and NVIDIA's powerful many-core GPU processors to create a true, productive, hybrid supercomputer

## Cray XE6<sup>™</sup> and Cray XE6m<sup>™</sup> Supercomputers

The Cray XE6 scalable supercomputer is engineered to meet the demanding needs of capability-class HPC applications. The Cray XE6m is optimized to support scalable workloads in the midrange market.

## Cray XMT<sup>™</sup> System YarcData uRiKA<sup>™</sup> Graph Appliance

The YarcData uRiKA graph appliance is a purpose built solution for Big Data

#### www.cray.com

relationship analytics. uRiKA enables enterprises to discover unknown and hidden relationships in Big Data, perform real-time analytics on Big Data graph problems, and realize rapid time to value on Big Data solutions.

The uRiKA graph appliance complements an existing data warehouse or Hadoop cluster.

### Cray Sonexion 1300<sup>тм</sup> Storage System

The Cray Sonexion 1300 system is an integrated, high performance storage system that features next-generation modular technology to maximize the performance and capacity scaling capabilities of the Lustre file system.

Cray also offers custom and third-party storage and data management solutions

#### **DatapointLabs**

## www.datapointlabs.com

Testing over 1000 materials per year for a wide range of physical properties, DatapointLabs is a center of excellence providing global support to industries engaged in new product development and R&D.

The compary meets the material property needs of CAE/FEA analysts, with a specialized product line, TestPaks®, which allow CAE analysts to easily order material testing for the calibration of over 100 different material models.

DatapointLabs maintains a world-class testing facility with expertise in physical properties of plastics, rubber, food, ceramics, and metals. Core competencies include mechanical, thermal and flow properties of materials with a focus on precision properties for use in product development and R&D.

Engineering Design Data including material model calibrations for CAE Research Support Services, your personal expert testing laboratory Lab Facilities gives you a glimpse of our extensive test facilities Test Catalog gets you instant quotes for over 200 physical properties.

## Participant

#### www.eta.com

ETA – Engineering Technology Associates etainfo@eta.com

#### Inventium Suite<sup>™</sup>

Inventium Suite<sup>TM</sup> is an enterprise-level CAE software solution, enabling concept to product. Inventium's first set of tools will be released soon, in the form of an advanced Pre & Post processor, called PreSys.

Inventium's unified and streamlined product architecture will provide users access to all of the suite's software tools. By design, its products will offer a high performance modeling and postprocessing system, while providing a robust path for the integration of new tools and third party applications.

#### PreSys

Inventium's core FE modeling toolset. It is the successor to ETA's VPG/PrePost and FEMB products. PreSys offers an easy to use interface, with drop-down menus and toolbars, increased graphics speed and detailed graphics capabilities. These types of capabilities are combined with powerful, robust and accurate modeling functions.

#### VPG

Advanced systems analysis package. VPG delivers a unique set of tools which allow engineers to create and visualize, through its modules-structure, safety, drop test, and blast analyses.

#### DYNAFORM

Complete Die System Simulation Solution. The most accurate die analysis solution available today. Its formability simulation creates a "virtual tryout", predicting forming problems such as cracking, wrinkling, thinning and spring-back before any physical tooling is produced

#### **ESI Group**

**Solutions** 

**Visual-Environment:** Visual-Environment is an integrated suite of solutions which operate either concurrently or standalone within a common environment. It aims at delivering an open collaborative engineering framework. As such, it is constantly evolving to address various disciplines and available solvers.

Visual-Crash is a dedicated environment for crash simulation: It helps engineers get their job done in the smoothest and fastest possible way by offering an intuitive windows-based graphical interface with customizable toolbars and complete session support.

For LS-DYNA users, Visual-Crash DYNA allows to focus and rely on high quality digital models, from start to finish as it addresses the coupling with competitive finite element or rigid body based software. This very open and versatile environment simplifies the work of CAE engineers across the enterprise by facilitating collaboration and data sharing.

Further tools are integrated in Visual-Environment enhancing CAE engineers work tasks most efficiently. www.esi-group.com

**Visual-Mesh** generates 1D, 2D and 3D elements for any kind of simulation.

Visual-Mesh provides automatic and guided surfaces clean up, application specific mesh generation and intuitive post mesh editing features..

**Visual-Viewer** is a complete, productive and innovative post-processing environment for CAE applications.

Visual-Viewer delivers a dedicated plotting and animation control solution. It offers a multi page, multi plot environment, allowing to group data into pages and plots. It is designed with a Windows GUI based on an intuitive and sleek user interface.

**Visual-Process** Executive is an advanced CAE environment for process customization and automation.

**VisualDSS** is an End-to-End Decision Support System for CAE. Manufacturers widely resort to Simulation-Based Design to gain a competitive edge in product development.

#### GNS - Gesellschaft für Numerische Simulation mbH

#### www.gns-mbh.com

#### Animator4

A general finite element post-processor and holds a leading position in its field. Animator4 is used worldwide by almost all automotive companies, a great number of aerospace companies, and within the chemical industry.

#### Generator2.

A specialized pre-processor for crashworthiness applications and has become very successful in the field of passenger safety and pedestrian protection. It is mainly used as a positioning tool for finite element component models by a great number of automobile companies throughout the world.

#### Indeed

An easy-to-use, highly accurate virtual manufacturing software that specializes in the simulation of sheet metal forming processes. Indeed is part of the GNS software suite and works concurrently with all other GNS software products.

#### OpenForm

A pre- and post-processor independently of a particular finite element forming simulation package. The software is extremely easy to handle and can be used as was designed to enable those who are not finite element experts to carry out multi-stage forming simulations with even complex multi purpose finite element codes.

## Gompute on demand®/ Gridcore AB Sweden www.gompute.com www.gridcore.se

Gompute is owned, developed and operated by Gridcore AB in Sweden. Founded in 2002, Gridcore is active in three areas: Systems Integration, Research & Development and HPC as a service.

Gridcore has wide experience of different industries and applications, developed a stable product portfolio to simplify an engineer/scientist's use of computers, and has established a large network of partners and collaborations, where we together solve the most demanding computing tasks for our customers. Gridcore has offices in Gothenburg (Sweden), Stuttgart (Germany), Durham NC (USA) and sales operations in The Netherlands and Norway.

The Gridcore developed E-Gompute software for internal HPC resources gives end users (the engineers) an easy-to-use and complete environment when using HPC resources in their daily work, and enables collaboration, advanced application integrations, remote pre/post, accounting/billing of multiple teams, license tracking, and more, accelerating our customers usage of virtual prototyping

#### **JSOL** Corporation

#### HYCRASH

Easy-to-use step solver, for one Coupled Stamping-Crash Analysis. HYCRASH only requires the panels' geometry to calculate manufacturing process effect, geometry of die are not necessary. Additionally, as this is target to usage of crash/strength analysis, even forming analysis data is not needed. If only crash/strength analysis data exists and panel ids is defined. HYCRASH extract panels to calculate it's strain, thickness, and map them to the original data.

#### JSTAMP/NV

As an integrated press forming simulation system for virtual tool shop

www.jsol.co.jp/english/cae/

the JSTAMP/NV meets the various industrial needs from the areas of automobile, electronics, iron and steel, etc. The JSTAMP/NV gives satisfaction to engineers, reliability to products, and robustness to tool shop via the advanced technology of the JSOL Corporation.

#### JMAG

JMAG uses the latest techniques to accurately model complex geometries, material properties, and thermal and structural phenomena associated with electromagnetic fields. With its excellent analysis capabilities, JMAG assists your manufacturing process

#### Livermore Software Technology Corp.

#### www.lstc.com

#### LS-DYNA

A general-purpose finite element program capable of simulating complex real world problems. It is used by the automobile, aerospace, construction, military, manufacturing, and bioengineering industries. LS-DYNA is optimized for shared and distributed memory Unix, Linux, and Windows based, platforms, and it is fully QA'd by LSTC. The code's origins lie in highly nonlinear, transient dynamic finite element analysis using explicit time integration.

#### LS-PrePost

An advanced pre and post-processor that is delivered free with LS-DYNA. The user interface is designed to be both efficient and intuitive. LS-PrePost runs on Windows, Linux, and Macs utilizing OpenGL graphics to achieve fast rendering and XY plotting.

#### LS-OPT

LS-OPT is a standalone Design Optimization and Probabilistic Analysis package with an interface to LS-DYNA.

The graphical preprocessor LS-OPTui facilitates definition of the design input and the

creation of a command file while the postprocessor provides output such as approximation accuracy, optimization convergence, tradeoff curves, anthill plots and the relative importance of design variables.

#### LS-TaSC

A Topology and Shape Computation tool. Developed for engineering analysts who need to optimize structures, LS-TaSC works with both the implicit and explicit solvers of LS-DYNA. LS-TaSC handles topology optimization of large non-linear problems, involving dynamic loads and contact conditions.

#### LSTC Dummy Models

Anthropomorphic Test Devices (ATDs), as known as "crash test dummies", are life-size mannequins equipped with sensors that measure forces, moments, displacements, and accelerations.

#### **LSTC Barrier Models**

LSTC offers several Offset Deformable Barrier (ODB) and Movable Deformable Barrier (MDB) model.

#### Oasys, Ltd

#### www.oasys-software.com/dyna

#### **Oasys LS-DYNA® Environment**

The Oasys Suite of software, exclusively written for LS-DYNA®, is at the leading edge of the market and is used worldwide by many of the largest LS-DYNA® customers.

**Oasys PRIMER** is a model preparation tool that is fully compatible with the latest version of LS-DYNA®, eliminating the risk of data loss or corruption when a file is manipulated, no matter what operations are performed on it:

#### Key benefits:

- Maintains data integrity
- Finds and fixes model errors (currently over 5000 checks)
- Specialist tools for dummy positioning, seatbelt fitting, mechanisms, interior head impact etc.
- Connection manager for spotwelds, bolts, adhesive etc.
- Intelligent editing, deletion and merging of data
- Customisable with macros and JavaScript.

**Oasys D3PLOT** is a powerful 3D visualization package for post-processing LS-DYNA® analyses

#### Key benefits:

- Fast, high quality graphics
- Easy, in-depth access to all LS-DYNA® results.
- User defined data components
- Customisable with JavaScript.

**Oasys T/HIS** is an X-Y graph plotting package for LS-DYNA®

#### Key benefits:

- 1. Automatically reads all LS-DYNA® results.
- 2. Wide range of functions and injury criteria.
- 3. Easy handling of data from multiple models
- 4. Scriptable for automatic post-processing

**Oasys REPORTER** is an automatic report generation tool, for use with LS-DYNA®. which allows fast automatic report creation for analyses.

## Participant

#### **Solutions**

#### Shanghai Hengstar

#### **Center of Excellence**

Hengstar Technology is the first LS-DYNA training center of excellence in China. As part of its expanding commitment to helping CAE Engineers, Hengstar Technology will continue to organize high level training courses and seminars in 2012.

The lectures/training are taught by senior engineers and experts mainly from LSTC, Carhs, OEMs, and other consulting groups.

#### **On Site Training**

Hengstar also provides customer customized training programs on-site at the company facility. Training is tailored for company needs using LS-DYNA or the additional software products by LSTC.

www.hengstar.com

#### **Distribution & Support**

Hengstar Distributes and supports LS-DYNA, LS-OPT, LS-PrePost, LS-TaSC. Hongsheng Lu, previously was directly employed by LSTC before opening his distributorship in China for LSTC software.

Hongsheng travels to LSTC often to keep current on the latest software features and support to continue to grow Hengstar as a CAE consulting group.

## Participant

## **Solutions**

#### **Comet Solutions**

#### www.cometsolutions.com

Comet enables rapid and robust design space exploration from concept discovery and selection through concept validation using a model-based engineering approach. We empower our customers to discover an array of possible design concepts, evaluate which ones are feasible, then select the best.

Comet software is a tool-open, extensible, vendor-neutral performance engineering

workspace that lets engineers and engineering project teams readily carry out multi-fidelity, multi-physics modeling and simulation.

In the Comet workspace, companies can better leverage all of their simulation assets – "best practices" expertise, COTS as well as in-house engineering tools, and product performance data.

Distribut	ion & Consulting	North Amer	ica Distribution & Consulting
Canada	Metal Forming Analysis <u>www.mfac.com</u>	-	galb@mfac.com
	LS-DYNA	LS-OPT	LS-PrePost LS-TaSC
	LSTC Dummy Models	LSTC Barrier	Models eta/VPG
	eta/DYNAFORM	INVENTIUM	/PreSys
United States	CAE Associates Inc. www.caeai.com		info@caeai.com
	ANSYS Products	CivilFem	Consulting ANSYS Consulting LS-DYNA
United States	DYNAMAX www.dynamax-inc.com		sales@dynamax-inc.com
	LS-DYNA LSTC Dummy Models	LS-OPT	LS-PrePost LS-TaSC LSTC Barrier Models

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	VA One	CFD-ACE+	ProCAST Process	Visual-
	VisualDSS	Weld Planner	Visual-Environment	IC.IDO
United States	Engineering Technolog www.eta.com	y Associates – ETA	etainfo@eta.com	
	INVENTIUM/PreSy LS-OPT	NISA DYNAform	VPG	LS-DYNA
United States	Gompute www.gompute.co	<u>pm</u>	info@gompute.com	
	LS-DYNA Cloud Service Additional Services	e	Additional software	
United States	<b>Comet Solutions</b> Comet Software	stev	e.brown@cometsolutions	<u>s.com</u>

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LSTC Dummy Models LSTC Barrier Models TOYOTA THUMS

United States	Predictive Engineering www.predictiveengineering.com		george.laird@predictive	engineering.com
	FEMAP	NX Nastran	LS-DYNA	LS-OPT
	LS-PrePost	LS-TaSC	LSTC Dummy Models	
			LSTC Barrier Models	

Distribution &	Consulting	Europe	Distribution	& Consulting
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	www.dynasplus.com	<u>n</u>		
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	DYNAFORM	VPG	MEDINA	
	LSTC Dummy Mod	lels	LSTC Barrier Models	

Germany	CADFEM GmbH		lsdyna@cadfem.de
	www.cadfem.de		
	ANSYS	LS-DYNA	optiSLang
	ESAComp	AnyBody	
	FTI FormingSuite		

Distribution	& Consulting	Europe	Distribution	& Consulting
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	www.dynamore.de			
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	LS-OPT	LS-PrePost	LS-TaSC	DYNAFORM
	Primer	FEMZIP	GENESIS	
	TOYOTA THUMS		LSTC Dummy & Barrie	r Models
Germany	GNS		mbox@gns-mbh.com	
	www.gns-mbh.com			
	Animator	Generator	Indeed	OpenForm
The	Infinite Simulation	Systems B.V	j.mathijssen@infinite.nl	
Netherlands				
	www.infinite.nl			
	ANSYS Products	CivilFem	CFX	Fluent

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	www.enginsoft.it				
	ANSYS	MAGMA	Flowmaster	FORGE	
	CADfix	LS-DYNA	Dynaform	Sculptor	
	ESAComp	AnyBody	FTI Software		
	AdvantEdge	Straus7	LMS Virtual.Lab	ModeFRONTIER	
Russia	Russia STRELA		info@dynarussia.com		
	LS-DYNA	LS-TaSC	LS-OPT	LS-PrePost	
	LSTC Dummy M	odels	LSTC Barrier Models		
Sweden	DYNAmore Nor	dic	marcus.redhe@dynamor	<u>e.se</u>	
	www.dynamore.s	<u>e</u>			
	ANSA	μΕΤΑ	LS-DYNA	LS-OPT	
	LS-PrePost	LS-TaSC	FastFORM	DYNAform	
	FormingSuite		LSTC Dummy Models	LSTC Dummy Models	
			LSTC Barrier Models		
Sweden	GOMPUTE		info@gridcore.com		
	www.gridcore.se		www.gompute.com		
	LS-DYNA Cloud	Service	Additional software		

Distribution	& Consulting	Europe	<b>Distribution</b>	& Consulting
Switzerland	DYNAmoreSwi	iss GmbH	info@dynamore.ch	
	www.dynamore.	<u>.ch</u>		
	LS-DYNA		LS-OPT	LS-PrePost
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			LSTC Barrier Models	
UK	Ove Arup & Pa	ortners	dyna.sales@arup.com	
	<u>www.oasys-soft</u>	ware.com/dyna		
	LS-DYNA		LS-OPT	LS-PrePost
	LS-TaSC	PRIMER	D3PLOT	T/HIS
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	DIGIMAT	Simpleware	LSTC Dummy Models	
			LSTC Barrier Models	

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	ANSYS DesignXplorer	ANSYS HPC	FlowMaster	Ensigh
	LS DYNA	DYNAform	Moldex 3D	FE-Safe
China	ETA – China		lma@eta.com.cn	
	www.eta.com/cn			
	Inventium	VPG	DYNAFORM	NISA
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
			LSTC Barrier Models	LS-TaSC
China	Oasys Ltd. China		Stephen.zhao@arup.com	
	www.oasys-software.com	<u>n/dyna</u>		
	PRIMER D3PLOT	HYCRASH	T/HIS REPORTER	SHELL
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	DIGIMAT	FEMZIP	LSTC Barrier Models	LS-TaSC
China	Shanghai Hengstar Teo	chnology	info@hengstar.com	
	www.hengstar.com			
	LS-DYNA	LS-TaSC	LSTC Barrier Models	
	LS-DYNA Courses	LS-OPT	LSTC Dummy Models	LS-PrePost

Distribu	ition & Consulting	Asia Pa	cific Distribut	ion & Consulting
India	Oasys Ltd. India		lavendra.singh@arup.con	<u>1</u>
	www.oasys-software.co	om/dyna		
	PRIMER D3PLOT	T/HIS		
		LS-OPT	LSTC Dummy Models	LS-PrePost
		LS-DYNA	LSTC Barrier Models	LS-TaSC
India	CADFEM Eng. Svce		info@cadfem.in	
	www.cadfem.in			
	ANSYS	VPS	ESAComp	optiSLang
	LS-DYNA	LS-OPT	LS-PrePost	
India	Kaizenat Technologies	e Pvt. Ltd	support@kaizenat.com	
	http://kaizenat.com/			
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	Complete LS-DYNA su	ite of products	LSTC Barrier Models	LS-TaSC

Distribu	tion & Consulting	Asia Pacific	Distribution	& Consulting
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	www.engineering-eye.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CmWAVE	
Japan	JSOL			
	www.jsol.co.jp/english/cae			
	JSTAMP	HYCRASH	JMAG	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	ТОҮОТА ТН	UMS
Japan	FUJITSU			
	http://jp.fujitsu.com/solution	ns/hpc/app/lsdyna		
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CLOUD Servi	ces
Japan	LANCEMORE	info@lancemore.jp		
	www.lancemore.jp/index_en	<u>n.html</u>		
	Consulting LS-DYNA			
Japan	Terrabyte Co.			
	http://www.terraby	te.co.jp		
	Consulting LS-DYN	Ā		

Distributi	on & Consulting	Asia Pacific	Distribution	& Consulting
Korea	THEME	wschung@kornet.co	<u>m</u>	
	www.lsdyna.co.kr			
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	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	Planets
	eta/DYNAFORM	FormingSuite	Simblow	TrueGRID
	JSTAMP/NV	Scan IP	Scan FE	Scan CAD
	FEMZIP			

Korea	KOSTECH	young@kostech.co.	<u>kr</u>	
	www.kostech.co.kr			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM
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	AxStream	TrueGrid	FEMZIP	

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	www.flotrend.com.tw			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Taiwan	APIC			
	www.apic.com.tw			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM

Cloud Service	LS-DYNA	<b>Cloud Services</b>
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Sweden	Gompute www.gompute.com	
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The Complete Courses Offered Ca	an Be Found At: <u>www.cadfem.de</u>				
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The Complete Courses Offered Can Be Found At: <u>www.dynamore.se</u>					
Training Classes	France DynAS+	<b>Training Classes</b>			
The complete Training Courses of	fered can be found at <u>www.dynasplus.co</u>	om			

Germany CADFEM GmbH

**Training Classes** 

**Training Classes** 

**Training Classes** 

Complete Courses offered can be found at: <u>http://www.dfe-tech.com/training.html</u>

Thailand

**United States CAE Associates Training Classes Training Classes** 

The Complete Courses Offered Can Be Found At: www.caeai.com

**Training Classes France Alyotech Technologies Training Classes** 

For course location visit www.alyotech.fr

**Training Classes Training Classes United States ETA** The Complete Courses Offered Can Be Found At: www.eta.com etainfo@eta.com

**Training Classes** 

## **Social Media**

## **FACEBOOK**



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Cray Inc. http://www.facebook.com/crayinc

ESI Group http://www.esi-group.com/corporate/facebook/



## BETA CAE SYSTEMS SA

http://twitter.com/betacae

Cray Inc.

http://www.twitter.com/cray\_inc

### ESI Group

http://twitter.com/ESIgroup

#### ETA

http://twitter.com/ETA\_Inc

#### GNS

https://twitter.com/gnsmbh

## Social Media

## FACEBOOK



## BETA CAE SYSTEMS SA

http://www.linkedin.com/company/beta-cae-systems-s.a.?trk=fc\_badg

Cray Inc.

http://www.linkedin.com/company/4936

#### ETA

http://www.linkedin.com/groupRegistration?gid=1960361

#### Oasys

http://www.linkedin.com/groups/Oasys-LSDYNA-Environment-Software-4429580?gid=4429580&trk=hb\_side\_g



#### BETA CAE SYSTEMS SA

http://www.youtube.com/user/betacae

- Cray Inc. <u>http://www.youtube.com/user/crayvideo</u>
- ESI Group <u>http://www.youtube.com/ESIgroup</u>
- ETA <u>http://www.youtube.com/user/etainfo1</u>
- Lancemore http://www.youtube.com/user/LancemoreJP?feature=watch



ETA: http://eta.com/company/news-eta?format=feed&type=rss



#### HPC on-demand for academic users

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- For LSTC academic customers.
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- Remote visualization using LS-PrePost
- Avoid installation and maintenance costs
- Other simulation applications also ready to use
- Global connectivity, remote graphics and collaborative environment
- Large number of cores available

For more information please visit: <u>www.gompute.com</u>

Price for computing-core/hour (CCH). Licenses and account set up are not included. Pricing valid only for universities, academic centers and research institutes. The following are trademarks or registered trademarks of Livermore Software Technology Corporation in the United States and/or other countries: LS-DYNA, LS-OPT, LS-PrePost, LS-TaSC. Gompute is owned and operated by Gridcore AB, 2012 All rights reserved.

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Finite Elements in Fracture Mechanics	Prof. Dr. Meinhard Kuna
Time-Domain Finite Element Methods for Maxwell's Equations in         Metamaterials (Springer Series in Computational Mathematics	Jichun Li
Finite Element Analysis: A Primer (Engineering)	Anand V. Kulkarni - V.K. Havanur
Finite Element Methods for Engineers	Roger T. Fenner
July 2013 Finite Element Mesh Generation	Daniel Lo
January 2013 <u>The Finite Element Method: Theory, Implementation, and</u> <u>Applications (Texts in Computational Science and Engineering)</u>	Mats G. Larson -, Fredrik Bengzon
January 2013 Finite and Boundary Element Tearing and         Interconnecting Solvers for Multiscale Problems (Lecture Notes in         Computational Science and Engineering)	Clemens Pechstein
January 2013       Structural Analysis with the Finite Element Method.         Linear Statics: Volume 2: Beams, Plates and Shells (Lecture Notes on Numerical Methods in Engineering and Sciences)	Eugenio Oñate
Elementary Continuum Mechanics for Everyone: With Applications to Structural Mechanics (Solid Mechanics and Its Applications)	Esben Byskov

## **Reference Library Recommended Reading Reference Library**

Finite Element Analysis Theory and	Practical Stress	<u>A First Course in</u>
Application	Analysis with Finite	<u>the Finite Element</u>
with ANSYS (3rd Edition)	<u>Element</u>	<u>Method</u>
Saeed Moaveni	Bryan J Mac Donald	Daryl L. Logan
Finite Element	Finite Element	Introduction to
Modelling Techniques	Analysis/formulation	Theoretical and
in MSC.NASTRAN	<u>&amp; verification</u>	Computational Fluid
and LS/DYNA		Dynamics
Sreejit Raghu	B. A. Szabo	C. Pozrikidis

<b>Finite Elements in</b>	CAE design and sheet	<b>Applied Metal Forming</b>
<b>Fracture Mechanics</b>	metal forming	
Prof. Dr. Meinhard	Li Fei Zhou Deng	
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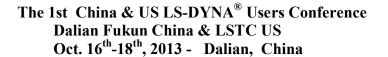
<u>Micro Metal</u> <u>Forming (Lecture</u> <u>Notes in Production</u> <u>Engineering)</u>	The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering) [Hardcover]	
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## Reference Library Recommended Reading Reference Library

Viskoplastische Stoffgesetze für Thermoplaste in LS- DYNA: Theorie und Aspekte der Programmierung Matthias Vogler	Meshless Methods in Solid Mechanics Youping Chen	Geotechnical Earthquake Engineering Steven Lawrence Kramer
<u>Fundamentals of Earthquake</u> <u>Engineering</u> Amr S. Elnashai	Computational Fluid Dynamics John David Anderson	Computational Fluid Dynamics: A Practical Approach [Paperback] Guan Heng Yeoh
Biomechanical Systems Technology: Computational Methods Cornelius T. Leondes	Numerical response of steelreinforced concrete slabsubjected to blast and pressureloadings in LS-DYNA.Vivek Reddy	Formulas for Mechanical and Structural Shock and Impact Gregory Szuladziniski

The Finite Element	Computational Fluid	
Method	<u>Dynamics</u>	
Thomas J. R. Hughes	T. J. Chung	





Join us to meet LSTC Developers, Dalian Developers, Professors, Engineers all dedicated to the growth of LS-DYNA and alliance partners products in the China market. Expected are attendees from Taiwan, Thailand, Korea, US, and other countries.

Learn new LS-DYNA features, share your LS-DYNA experience with developers, professors, and engineers from industry experts, end users and LSTC/Dalian developers.

China was chosen due to the rapid growth in CAE technology. LS-DYNA, as the leading finite element software in the industry, has been well acknowledged and widely adopted in China and worldwide, in various industries such as Automotive, Aerospace and Aeronautics, and Electrical & Electronics.

Site: <u>www.dalianfukun.com/conference</u> Contact us: <u>chinaconf@lstc.com</u>



Dalian Inn Fine Hotel, Dalian China.

Headquartered in Livermore, California, Livermore Software Technology Corporation (LSTC) develops LS-DYNA and a suite of related and supporting engineering software products: LS-PrePost, LS-OPT, LS-TaSC and LSTC's ATD and Barrier Models.

The conference will be held regularly and be China's main LS-DYNA Conference platform for researchers and engineers to exchange ideas, new developments and to encourage communications between software developers, users, and others in industry and academia We welcome all LS-DYNA users to share their knowledge by submitting papers.

Oct. 16 <sup>Th</sup>	Evening	Registration, Reception party		
Morning Main Sess Oct. 17 <sup>th</sup>		Keynote Speakers speech Dr. John O. Hallquist Dr. Lin Zhongqin Dr. Zhou Qing Dr. Wu Shenrong Dr. Li Genguo		
	Afternoon Session	<ol> <li>Automotive crashworthiness(1)</li> <li>MPP</li> <li>Simulation Technogloy</li> <li>EFG, NVH, Multi-Physics 2</li> </ol>		
	Evening	Banquet		
10月18日	Morning Session	<ol> <li>Automotive crashworthiness(2)</li> <li>Metal Forming</li> <li>Airbag, Ale, CMP, SPH</li> <li>Pre,Post processing and Optimization</li> </ol>		
	Afternoon Main Session	Latest LSTC products updates LSTC expert will introduce Latest LSTC products updates		

## **Conference Schedule:** Oct.16<sup>th</sup> – 18<sup>th</sup>

# Training Classes: Oct. 15<sup>th</sup> - 16<sup>th</sup>

No	Class Title	Date	Language	Instructor
C1	ALE/FSI	15th -16th	Chinese	Hao Chen
C2	LS-OPT Introduction	15th -16th	English	Nielen Stander
C3	LS-DYNA(R) in Sheet Metal Forming Simulation	15th -16th	Chinese	Xinhai Zhu
C4	MPP and Particle Airbags	15th -16th	Chinese	Jason Wang
C5	Passive Safety	15th -16th	English	Dilip Bhalsod
C6	LS-PrePost	19th -20th	Chinese	Zhan Ding, Wang Kai