Engineering FEA Information Journal &Website Resource
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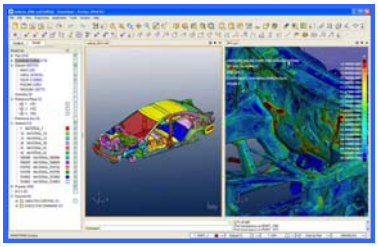
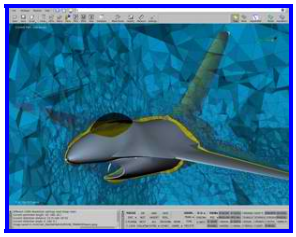
October Issue - 11th Anniversary Issue

PreSys™ R3 Release



FE Modeling Tool

BETA CAE Systems S.A.



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FEA Information Inc. Announcements

Welcome to our 11th Anniversary Issue. A special thanks to a few of our first participant's that supported, and continue to support FEA Information Inc.:

- Abe Keisoglou and Cathie Walton, (ETA) US,
- Brian Walker, Oasys, UK
- Christian Tanasecu, SGI,
- Guenter and Margareta Mueller, CADFEM Germany,
- Sam Saltiel, BETA CAE Systems SA, Greece
- Companies - JSOL - LSTC

With this issue we will be adding new directions, opening participation, and have brought on additional staff. I would personally appreciate any suggestions on articles that you want included, software information, and anything you wish to share. In this way, we know that we're publishing what you want. We look forward to Q1-2012 when we anticipate changes will be completed. Send any suggestions to me, Marsha, at mv@feainformation.com and to avoid being missed please cc to livermorehorses@aol.com

Sincerely, **Marsha J. Victory,** President, FEA Information Inc
mv@feainformation.com

Ranch Picture
www.livermorehorses.com

Sara Wolley and Shane.

Sara grooms, and helps out with Shane.

Participant & Industry Announcements

APACS Services, Inc -

APACS Services, Inc. - consulting, support and training expertise encompassing a broad range of industrial applications in the areas of structural, thermal, thermal-stress, and fluid-structure interaction analysis.
Alex Pinsker, - Email: apacs@comcast.net

Data Point Labs

http://www.testpaks.com is the new side of DatapointLabs, focused on the material modeling needs of the CAE (Computer-Aided Engineering) community. The site contains discussions, articles and case-studies, plus an easy way to select and buy TestPaks® - material testing for the calibration of material models for your simulation.

FEA Participants at Super Computing 2011

http://www.sc11.supercomputing.org/
Please check SC11 for any changes in booth numbers

- **Fujitsu** Limited 815
- **Gompute** 6002
- **Microsoft** 1601
- **Panasas Inc**. 1506
- **SGI** 1841

Courtesy Postings

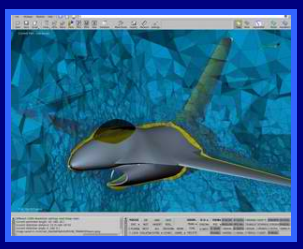
- **AMD** Advanced Micro Devices, Inc. 823
- **Bull** SAS 2643
- **Cray** Inc. 2030
- **Fraunhofer** ITWM 657
- **IBM** 2131
- **NVIDIA** 2719
- **QLogic** Corp 2105

Platinum

OASYS Ltd: http://www.oasys-software.com/dyna/en/	**JSOL Corporation**: http://www.jsol.co.jp/english/cae	**SGI:** http://www.sgi.com
ETA: http://www.eta.com	**DYNAmore GmbH** http://www.dynamore.de	**ESI Group**: http://www.esi-group.com
BETA CAE Systems S.A.: http://www.beta-cae.gr	**LSTC:** http://www.lstc.com	**Dalian Fukun Technology Co. Ltd.:**
MICROSOFT http://www.microsoft.com	**Panasas, Inc.** http://www.panasas.com	**Shanghai Hengstar Technology Co. Ltd** http://www.hengstar.com/
GridCore AB http://gridcore.se		

Bronze Participants

Data Point Labs	APACS	Lancemore Corporation Japan
e2s Enterprise Engineering Solutions		



BETA CAE Systems S.A. announces the release of ANSA v13.2.0

New software version release announcement - October 13th, 2011
http://www.betacae.com/news/20111013_announcement_ansa_v13.2.0.htm

BETA CAE Systems S.A. announces the release of ANSA v13.2.0 with impressive new features and known problems resolved

The official software release is comprised by the latest ansa_v13.2.0 files that reside in the server at the time of this announcement. These replace any pre-releases and files downloaded prior to October 13th, 2011.

Supported platforms: ANSA v13.2.x and the respective CAD Data Translators, will be available on MS-Windows, Linux and Mac OS only.

The following UNIX platforms: HP-UX, IBM-AIX and SUN-Solaris will be discontinued.

The support of Windows 2000 SP3 will also be discontinued and Windows XP SP1 will be the earliest MS-Windows version to be supported.
For details, please review the latest document on the supported platforms and minimum system requirements .

New features

- Double precision for higher accuracy.
- Support of larger than 16GB .ansa files.
- Moldex3D pre-processing menu and interface.
- RadTherm pre-processing menu and interface.
- Simultaneous interpretion and merging of CAD files (IGES, STEP, VDA).
- Support of hierarchy information read from IGES files.
- Comparison tool applicable on solver input files (NASTRAN, LS-DYNA, Abaqus etc.).
- Zoom In/Out button on Lists window to focus on selected item.
- Multi conditional filter on Lists window.
- On screen mouse-buttons operation for visibility control.
- UnDO/ReDO operations in Focus commands using shortcut buttons.
- Various geometry definition and healing functions.

- Auto Middle Surface Mesh Generator: results improvement and significant reduction of memory allocation.
- Additional Mesh Quality criteria.
- Enhanced mesh handling tools.
- CFD mesh generator: mixed mesh (tria & quad) creation.
- Additional parameters for better volume mesh creation.
- Outline display of volumes.
- New options added for splitting volume elements.
- Voxel solid mesh gernerator.
- Hexa Block: Improvement of the automatic “O-GRID” treatment.
- Batch Mesh Manager: Wizard driven input for effortless generation of parameters and quality criteria.
- Batch Mesh Manager: Significant improvement in surface triangular mesh on solid components.
- Batch Mesh Manager: Option for element length treatment on flanges has been added.
- New Connections Selection Assistant interface.
- Connections importing options (offset & grouping).
- New connections comparison tool.
- New colour coding and on-screen visibility control of connections.
- Numerous new FE-Representations for all connection types.
- ANSA Data Management: enhanced and facilitated handling of "Include files".
- Graphical representation of Penetration depth.
- NASTRAN: Output option for MD Nastran, NX Nastran, NEi Nastran.
- Capturing of line elements in Display Model for NVH modelling.
- Numerous new keywords supported for all solvers.
- Interpretation of ADAMS/View to ANSA Kinematic Entities and vice versa.
- Extended ANSA Kinematics Tool with wide range of functionality.
- Preserving of the imported "unsupported keywords" as Auxiliary Include and restoration of them during Output.
- Results Mapping: support of composites mapping from Simulayt & FiberSim results formats.
- Laminate tool: new interface, PERMAS Composites support, various new options and applications.
- Check Manager: template driven interface for "single-shot" errors detection and reporting.
- NVH Console: diagram of the assembly of the include files, using connectors items, for NVH FRF and Modal Models based analyses.
- Include Files Configurator: new data handling options for saving and exporting.
- Occupant Safety: Ejection Mitigation - FMVSS 226 analysis tool.

- Dummy: direct mouse-driven and interactive dummy translation positioning.
- MORPH: New Direct Fitting morphing tool.
- MORPH: smoothing zone for nested elements option.
- MORPH: support of sensitivity-based morphing on polygon and polyhedral elements.

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

Known issues resolved

- Erroneous measurement of distance between Faces.
- Realization of RBE2s by Connection Lines was producing NASTRAN dependency errors.
- COMPARE: Differences in Abaqus STEP manager were not traced.
- Hot Points on triple bounds junctions might not be deleted after perimeters' join.
- Holes' recognition has been significantly improved.
- VOLUMES>EXTRUDE>REVOLUTE: accuracy issues.
- The RE-MESH function on macro areas with MAP [Tria] was generating MAP [Quad] mesh.
- Wrong calculation of "Growth Ratio" and "Non-orthogonality" quality criteria.
- The correction of the Property Thickness Penetration on 2nd order solid elements was not moving the mid-nodes.
- Renumber Tool: Special Rules with Force option, might be creating conflicts, by assigning free IDs.
- NASTRAN: errors in the exported files format, when the option "Continuation lines" was disabled.
- Abaqus: Solid elements C3D8L, were outputted as C3D8R, when the option Abaqus/Explicit was enabled.
- Abaqus: DOF field of *BOUNDARY was erroniously read when "Magn" was blank.
- LS-DYNA: DAMPING was not outputted when the "Model" output option was used.
- PAM-CRASH: imported BAGIN data cards were ignored if the referenced GASPEC data were missing.
- PAM-CRASH: the LC and RC fields of RWALL might be outputted in wrong position.
- PAM-CRASH: the Transformation information within the IMP/EXPORT was not fully written in the exported file.
- RADIOSS: the *SUBSET was not written out when include files were also output.
- ANSYS: output of 2nd order CONTA174 and TARG174 elements, was leading to conflicts.
- MEDINA: exporting GASKET elements of 2nd order, was

causing unexpected termination of the program.

- and more...

For more details about the new software features, enhancements and corrections please, refer to the Release Notes document.

Compatibility: ANSA files saved by version 13.2.0 can not be opened by earlier releases e.g. 13.1.x etc.

Documentation-Release Notes: For more details about the new software features, enhancements and corrections please, refer to the "ansa_v13.2.0_release_notes" pdf document, that can be downloaded separately. This can be also reached by the "Help>Ansa documentation index" accessed by top menu bar within ANSA.

Updated documentation

- ANSA v13.2.0 User's Guide
- Getting started guide accessed by Help>Getting Started (in html format)
- CFD project practices
- CFD Tutorial for preparation of a car cabin model for HVAC analysis
- Setting-up PERMAS contact analysis tutorial
- Composites model set-up tutorial

...For all information on Where to download, and What to download, please visit the website - http://www.beta-cae.gr

Making A Difference

Guenter & Margareta Mueller

By Marsha Victory

Thinking about CADFEM GmbH is to recognize the innovative and lifelong commitment that Güenter and Margareta Müeller have brought to the FEA and CAE community. Additionally their son, Christoph Müeller, now an integral part of CADFEM GmbH, continues the values and integrity.

CADFEM GmbH - http://www.cadfem.de/

Since 1985, CADFEM has offered a complete range of the leading software for numerical simulations. Their focus has been on customer satisfaction, by including product-supporting services. This includes seminars, technical support, consulting, on site expertise, and customization specifically designed to focus on a customer's needs. Starting in Germany with their first office, CADFEM now has offices on all continents.

CADFEM continues to offer a wide range of software that encompass all solutions, a customer may need. Among them are:

- **Explicit Analysis**:
  - LS-DYNA,
  - ANSYS
  - Autodyn
- **FTI Forming Suite** - Utilizes the FASTBLANK® module to produce accurate blank shapes. It also uses the BLANKNEST® module to determine how much scrap will be produced during the blanking operation. Its unique optimization capabilities help identify product changes.
- **optiSLang** - Allows the user to use sensitivity analysis, multidisciplinary optimization, robustness and reliability analysis through a predefined graphical user interface. Existing simulation processes from any user-defined CAE program, pre and post processors can be connected through a graphical editor and are accessible to a parametric sensitivity study, optimization or stochastic analysis.
- **DIGIMAT** - Material Design
- **MaterialStudio** - Material Design
- **ESAComp** - Composites:
- **WAON** - Acoustics:
- **AnyBody** – (biomechanics) The AnyBody Modeling System is a software system for simulation of human movement. It can model smaller or larger subsets of the musculo-skeletal system (or the

entire body) and compute muscle forces, joint reactions, metabolism, mechanical work, efficiency, etc. for given movements. Any property of the AnyBody model is parametric, and the system can be used for optimization of movement patterns, working positions, anthropometric data, boundary conditions etc.

The European School of Computer Aided Engineering Technology (esocaet) http://www.esocaet.com

Founded in 2003 by CADFEM GmbH ESOCAET is as a network of European partners from industry and university. It meets the rising demand for well-trained simulation engineers who are able to use CAE tools efficiently by offering flexible, innovative educational opportunities in the field of numerical simulation.

Among the studies can be found:

CAE Study with Master's Degree
The part-time master's degree program in Applied Computational Mechanics (ACM) is especially designed for experienced engineers who are already working, or would like to work in the field of Computer Aided Engineering. The program is highly practice-oriented. Participants will benefit from small classes and e-learning in the well-equipped environment of selected universities. Renowned lecturers from universities and industry will bring them up to date with the latest CAE developments. A bachelor's degree and subsequent work experience is required as entrance qualification.

E Training – Comprehend Simulation
This program addresses specifically technicians, design engineers, and test engineers. The three-month part-time course provides basic know-how of the Finite Element Method (FEM) and its application. Contents are conveyed by a combination of on-site seminars and e-learning. Learning success is given by a consequent monitoring by e-tutors. Applications focus on linear structural mechanics.

(1)

LLNL researchers find way to mitigate traumatic brain injury in study for Joint IED Defeat Organization

(1) LLNL mechanical engineer Mike King (left) and physicist Willy Moss watch a compression test of a helmet pad. The pair has found a simple way to potentially reduce the severity of traumatic brain injury from blunt and ballistic impacts.
Photo by Bob Hirschfeld/PAO

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https://www.llnl.gov/news/newsreleases/2011/Apr/NR-11-04-05.html

Researchers at Lawrence Livermore National Laboratory (LLNL) have found that soldiers using military helmets one size larger and with thicker pads could reduce the severity of traumatic brain injury (TBI) from blunt and ballistic impacts.

Their results came after a one-year study funded by the U.S. Army and the Joint IED Defeat Organization (JIEDDO) to compare the effectiveness of various military and football helmet pads in mitigating the severity of impacts.

The findings have been presented to the Program Executive Office (PEO) Soldier, which is directed by Brig. Gen. Peter Fuller and is the U.S. Army acquisition agency responsible for everything a soldier wears or carries.

In 2009, Gen. Peter Chiarelli, of the Vice Chief of Staff of the Army, directed JIEDDO to review the mitigation capabilities of the U.S. Army's Advanced Combat Helmet (ACH) against impact injuries. LLNL researchers Willy Moss and Mike King were tasked to determine if the helmet pads used by the NFL might protect against militarily relevant impacts better than the pads currently used in the ACH.

"A review committee chose us to do this study based on our previously published work on blast-induced TBI. The committee concluded that LLNL had the best mix of skills and capabilities to quickly and effectively address the Defense Department's concerns," Moss explained.

Five types of pad systems were studied-those currently and previously used by the Army, two used in NFL helmets, and one used in other protective sports equipment. The two Army systems consist of bilayer (hard-soft) foam pads within a water-resistant airtight wrapper or coating. One NFL system consists of a thin foam pad and a hollow air-filled cylinder that buckles under load, and the other is a bilayer foam pad surrounded by a covering with air-relief channels that connect to adjacent pads in the helmet. The fifth pad consists of uniform dense foam.

Moss and King used a combination of experiments and computational simulations to study the response of the various pad systems to battlefield-relevant impacts to gain an understanding of how helmet pads provide protection against these impacts.

"For each of the pads, we did experiments to characterize the material properties of the individual foam components as well as the response of the complete pad system to a range of impact velocities," King said. "Then we did a large number of computational simulations examining how various parameters, such as foam material, pad thickness, pad area, and trapped air, affect the overall impact response. We also performed simulations of actual military helmet drop tests to confirm the validity of our computational methods and results."

The impact response simulations made use of the PARADYN finite element analysis software, a parallel version of the DYNA3D software developed by LLNL in the 1970s and 80s to model the deformation of solid structures under impact. (DYNA3D has been commercialized as LS-DYNA and is used worldwide by automotive, aerospace, bioengineering, manufacturing, and construction industries.)

The LLNL study found that for comparable thicknesses, none of the pads examined outperforms the pad currently used in the ACH system for battlefield-relevant impacts. The experiments and simulations confirmed that pad performance depends on impact velocity, with softer pads performing better at lower impact velocities and harder pads providing more protection at higher velocities. Because the NFL pads are not as soft as the military pads, they allow larger forces to be transferred to the head. This finding was not completely unexpected since football impacts differ from military impacts, so the requirements for the respective pads are different.

"Just because no pad in this study outperforms the pad that's currently used in the ACH doesn't mean that an improved system can't be devised," said Moss.

The most important result of the study was that significantly increased protection could be attained by modest increases in pad thickness. The current military pad is about three-quarters of an inch thick. Moss and King found that increasing pad thickness by an extra eighth to quarter inch could make a large difference in reducing the accelerations imparted to the head. Implementing such a change would require no "system reconfiguration," but simply the use of a one-size-larger helmet with correspondingly thicker pads.

Use of a one-size-larger helmet also would provide additional protection against non-penetrating bullets or metal fragments, due to the extra space into which the inside surface of the helmet could expand without contacting the head.

"What we found amazing was that our results suggest a very-low-cost strategy for mitigating TBI that the Defense Department could implement immediately, providing there's no detriment to functional or operational requirements," said Moss.

"Our methods and results also are applicable to the civilian sector, particularly contact sports helmet design," King added. The NFL, as well as college and youth sports organizations, have increased efforts to find better ways to protect their athletes from head trauma.

"A combination of simulation and experiment like we've used here also could be used to evaluate and improve the design of various sports helmets. It's very gratifying that this work can help protect our soldiers in the field and also benefit professional and youth athletes."

JIEDDO continues to work with LLNL to examine thicker pad systems with the intent of further protecting soldiers against impact and blast injuries caused by improvised explosive devices (IEDs). The next step will be to further explore pure blast injuries.

To learn more, Visit the Website LLNL for:

- the ABC TV (KGO) report.
- More Information - Joint IED Defeat Organization
- "A new application for a weapons code," Science & Technology Review
  (LLNL publication), March 2010
- New features for structural elements in DYNA3D
- U.S. Army Advanced Combat Helmet
- Michael King, LLNL mechanical engineer, discusses the study.
- Watch Video - Willie Moss, LLNL physicist, explains the findings.

ESI sponsors in-house engineer David Prono for a transatlantic boat race

http://www.esi-group.com/corporate/news-media/press-releases/2011-english-pr/esi-sponsors-in-house-engineer-david-prono-for-a-transatlantic-boat-race

ESI sponsors in-house engineer David Prono for a transatlantic boat race

Paris, France – 24 September, 2011 – ESI Group, pioneer and world-leading solution provider in virtual prototyping for manufacturing industries, announces the participation of employee David Prono in the Charente-Maritime/Bahia Transat 6,50 (former Mini Transat), a single-handed race across the Atlantic Ocean on a 6.50 meter sail boat without assistance, departing from La Rochelle on September 25.

Originally from Brittany, 31 years old David has enjoyed sailing with his family since the age of 10. In 2000, he joined his first regatta in La Trinité-sur-mer, Brittany. He joined ESI in 2007 and was based for two years in San Diego, where he had the opportunity to join a local sailing crew and experienced the unique atmosphere, and the numerous challenges, of team sailing. Back in France, David decided to go solo and set himself a new personal challenge by registering for the 2011 'Mini' transatlantic race.

All the best single-handed skippers have taken part in the Charente-Maritime/Bahia Transat 6,50 at least once and it is thus recognized as the one race to begin a career in offshore sailing races. The list of predecessors is impressive: Isabelle Autissier, Ellen MacArthur, Loïck Peyron and Laurent Bourgnon, to name only a few.

This year's edition of the Charente-Maritime/Bahia Transat 6,50 will depart from the French port of La Rochelle on September 25. After a stopover in the Portuguese Island of Madeira, skippers are expected to spend an average of 4 weeks at sea with little sleep and no communications with the outside world. Boats should reach the finishing line in Bahia, Brazil next month. Of course David's colleagues from ESI South America eagerly await his arrival.

"We're very proud of David. Qualifying for this race after only one year of preparation is already an achievement and the commitment of being on the starting line next Sunday. Skippers will have no margin for error; only excellence will do and he will have to get it right. It shows great courage and dedication. All values that ESI shares and promotes. We truly wish him the best for this competition and look forward to celebrating his arrival in Bahia," declared Alain de Rouvray, Chairman and CEO of ESI Group.

ESI's interest in off-shore yacht racing extends beyond celebrating the personal involvement of its staff. For example the company is currently working with naval architect Romaric Neyhousser on the composite material properties of skipper Lalou Roucayrol's new trimaran. This work is being led by David Prono, Composites Marine Domain Expert at ESI. David has worked towards several global virtual prototyping projects in the marine industry, including the Safran Open 60 race yacht project, which was highlighted at the JEC Composites show in Paris last April.

ESI Group will be present at the start of the race in La Rochelle on 25 September, 5pm. David Prono is registered as number 728. His boat is sponsored by ESI with the company's tagline 'Get it Right' as its name. Lalou Roucayrol is David's godfather for the race.

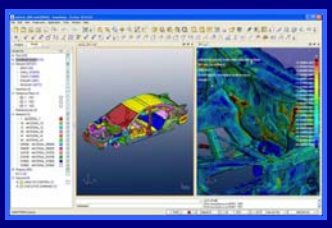
For more information about his entry, please consult David's skipper card on the race's website:

www.charentemaritime-bahia.transat650.net/fr/les-concurrents/33/prono-david.html

For more ESI news, visit: www.esi-group.com/newsroom

About ESI Group: ESI is a pioneer and world-leading solution provider in virtual prototyping for manufacturing industries that takes into account the physics of materials. ESI has developed an extensive suite of coherent, industry-oriented applications to realistically simulate a product's behavior during testing, to fine-tune manufacturing processes in accordance with desired product performance, and to evaluate the environment's impact on performance. ESI's solutions fit into a single collaborative and open environment for End-to-End Virtual Prototyping, thus eliminating the need for physical prototypes during product development. The company employs about 850 high-level specialists worldwide covering more than 30 countries. ESI Group is listed in compartment C of NYSE Euronext Paris.

For further information, visit www.esi-group.com.



PreSys™ R3 Release

FE Modeling Tool Now Offers 'Part Groups' Function

October 21st, 2011—Engineering Technology Associates, Inc. (ETA) is pleased to announce the availability of the latest version of their advanced finite element modeling solution, PreSys™, part of the Inventium Suite™ of simulation products.

The R3 release of the product will be available to users on October 31, 2011, and will deliver an improved experience for engineers who need to build complex finite element models for nonlinear impact, durability, vibration and thermal analysis.

PreSys™ 2010 R3 has a long list of new or improved features, with one of the most exciting additions being the availability of 'Part Groups' which allow the user to drag and drop parts into a group that can be used for visualization, as well as property and boundary condition definitions. "This feature will provide another productivity boost for our users," comments Tim Palmer, PreSys Product Manager. "Users are able to quickly create and assign groups and change the various attributes of these groups – reducing the number of operations required."

PreSys R3 also has improved surface data handling and editing features, which allow users to create or modify CAD data within the software.

"We surveyed our users and found that a great deal of their time was used to make connections between the various components of large finite element models. In some cases this may be up to 60-70% of the time required to build a model such as an automotive structure," comments Palmer. "To address this bottleneck in engineering development, we have created an 'Auto Spotweld' feature that allows the user to quickly create a large number of welds at predetermined locations. This has the potential to cut spotweld creation time in half."

Also part of the Inventium Suite™, VPG™ module updates will also be available on the 31st. These application specific modules allow users to create unique finite element models and insightful simulations efficiently. VPG™ modules include Drop Test, Fluid-Structure Interaction and Safety.

For occupant safety analysis, the Safety module allows engineers to position finite element dummy models (included in the software), add seat belts and evaluate effects such as dummy and seat interactions.

PreSys Features

- **Complete finite element modeling toolset**
  - Task manager guides the user through operations
  - Surface automeshing
  - Boundary condition definition
  - Automated solid meshing

- ◦Material library
- ◦Unlimited model size
- ◦Direct interface with LS-DYNA, NISA, Moldex3D, NEi Nastran, MSC NASTRAN, RADIOSS, PAM-CRASH & ABAQUS
- ◦Interactive mesh editing
- ◦Model check and repair tools
- ◦Continuous data error checking

- **●Fully configurable user interface**
  - ◦Native Windows XP/Vista/7 & 64-bit OS support
  - ◦High performance, openGL-based graphics
  - ◦Ability to open & control multiple models simultaneously
  - ◦Shortcut keys definable by user
- **●Complete results visualization**
  - ◦Stress/strain contour plotting
  - ◦Animation of deformations & stress/strain data
  - ◦Graphing tools for complete data analysis
  - ◦3D view application for stand-alone viewing of models & results
- **●Interfaces with CAD software via standard formats**
  - ◦IGES, STEP, SAT, CATIA, DXF, UG NX, ProE, Solidworks & Parasolid
  - ◦Import/export capability
- **●Model data displayed in a tree-structure**
  - ◦Quickly & efficiently access all model entities
- **●Card image view to create/edit non-graphical data**
- **●Scripting interface for all commands**
- **●Macro capability write/edit/replay**
- **●Language localization**

About Engineering Technology Associates, Inc. (ETA): Engineering Technology Associates, Inc. (ETA) was established in 1983 by advanced product development engineers working as structural analysts for the world's largest automotive manufacturers. ETA's expertise in the areas of product design and development, vehicle durability, NVH, metal forming, crashworthiness and occupant safety have provided an intimate knowledge of the challenges and needs of the product development engineer. Proactive in the creation and implementation of new analysis methods and software, ETA is the developer of the Inventium Suite and DYNAFORM.

For further information about ETA and its products:

http://www.eta.com ,
(248) 729-3010
etainfo@eta.com

Toyota Collaborative Safety Research Center Announces 10 New Projects and Six New Partnerships With Leading Academic and Research Institutions

Ann Arbor, MI, September 13, 2011 – Toyota's Collaborative Safety Research Center (CSRC) today announced 10 new research initiatives and new research agreements with six leading North American universities and research institutions to enhance the development, testing and implementation of new automotive safety innovations across North America.

Revealed at the 2011 Toyota Safety Technology Seminar at the Toyota Technical Center (TTC) in Ann Arbor, Mich., the new projects will research subjects ranging from driver education and collision mitigation to accident reconstruction and enhanced crash data analysis. A significant expansion in the Center's work, these initiatives build upon the CSRC's initial focus of working to reduce the risk of driver distraction and better protect the most vulnerable traffic populations, including children, teens, seniors and pedestrians.

"In keeping with its collaborative, open research model, the CSRC intends to publish as much of the research from its partnerships as possible to make it available to federal agencies, the industry and academia," said Chuck Gulash, Senior Executive Engineer at the Toyota Technical Center and Director of the CSRC. "This model of sharing the CSRC's Toyota talent, technology, and data with a broad range of institutions, represents a fundamental change for Toyota, moving away from a traditional focus on proprietary research towards more openly sharing innovations that benefit the automotive industry and society as a whole."

Along with previously announced partnerships with University of Michigan Transportation Research Institute (UMTRI), Children's Hospital of Philadelphia (CHOP) and Virginia Tech Transportation Institute (VTTI), the projects announced today bring the total number of ongoing research programs to thirteen. The CSRC initiative will operate on an initial funding budget of $50 million over 5 years, and hopes to announce additional partners and programs over the next year.

The CSRC today also announced the launch of its new website, located at (www.toyota.com/csrc) as part of Toyota's Environmental, Safety and Quality (ESQ) Communications website (www.toyota.com/esq). Featuring a

cross section of information and research developments from ongoing work of the Center and its partners, the new site will serve as an ever expanding, publically available hub for the CSRC's collaborative research on automotive safety throughout North America.

The new CSRC collaborative safety technology research partners include:

Massachusetts Institute of Technology
(MIT) AgeLab, Cambridge, MA

The Transportation Active Safety Institute
(TASI), Indiana University/Purdue University Indianapolis (IUPUI)

Virginia Polytechnic Institute and State University
(VT), Blacksburg, VA

Wake Forest School of Medicine, Winston-Salem, NC

Washtenaw Area Transportation Study (WATS), Ann Arbor, MI

Wayne State University School of Medicine, Detroit, MI

About the new CSRC Research Programs

Massachusetts Institute of Technology AgeLab
Demands of In-Vehicle Interfaces - A two-year study to explore how the use of in-vehicle voice command systems affect driver distraction. The findings will be provided to NHTSA to help inform future research and voluntary guidelines.

The Transportation Active Safety Institute at Indiana University - Purdue University Indianapolis
Pedestrian Pre-Collision Systems (PCS) Test Scenarios - A five-year study to develop testing protocols for automotive PCS designed to prevent pedestrian-related car accidents. The study will draw on available crash data in NHTSA databases and original vehicle testing to develop more sophisticated and realistic test scenarios for PCS with the goal of improving pedestrian safety.

University of Michigan Transportation Research Institute
Posture, Body Shape, and Seatbelt Fit in Senior Drivers - An 18-month project to study the relationship between age and seated occupant posture, body shape, and seatbelt fit. The project seeks to determine if senior drivers and passengers sit differently in the vehicle, to characterize exterior body shape changes that occur with age, and to understand how these factors influence seat belt fit. The statistical models resulting from the study can be used to better understand senior occupant kinetics and injury patterns in a crash event.

Virginia Tech Transportation Institute

Senior Driver Support - Brain Training
A three-year project to test and compare the benefits of a brain fitness training program for senior drivers. Researchers believe that with brain appropriate training, older drivers can increase their useful field of view, which typically shrinks as we age.

Lane Departure Warning System Safety Benefit Estimation - A three-year study to evaluate the safety benefits of Lane Departure Warning (LDW) Systems and develop collision scenarios that can be used to effectively compare the technology across different makes and models.

Wake Forest School of Medicine

Advanced Automated Crash Notification - A one-year partnership to develop vehicle computer systems that not only notify first responders in the event of a collision, but also predict the likelihood and severity of occupant and driver injuries.

THUMS Simulation of Real-World Collision Events - A five-year project to combine collision reconstruction data with Finite Element Modeling to better understand how to reduce injuries caused by vehicle collisions. The study will compare information about actual collisions with data from Toyota's THUMS technology, allowing researchers to pinpoint which changes to vehicle design could have prevented the actual injuries suffered by vehicle occupants.

Washtenaw Area Transportation Study

Washtenaw County Crash Data Archive - A two-year study to explore new models for post-crash accident data collection. The study aims to help prevent future collisions through an improved understanding of information that could be used to make vehicles and U.S. roads and highways safer.

Wayne State University School of Medicine

Driver Distraction: Cognitive Model & Validation - A three-year collaborative study to better understand the cognitive aspect of driver distraction. Combining research in the fields of driver behavior, cognitive psychology, and cognitive neuroscience, the project will advance the auto industry's understanding of a phenomenon that has been widely blamed for many accidents and injuries on U.S. roads and highways.

Finite Element Model Development for Vulnerable Populations - A four-and-a-half-year study to develop human body finite element (FE) models for children and seniors so that engineers can account for differences in their body characteristics when designing vehicle safety systems. The study aims to close the gap between current safety testing and the actual injuries sustained by these two vulnerable populations, ultimately reducing injuries to all occupants regardless of age.

"LSTC SID-IIs-D FAST" Finite Element Model

Christoph Maurath

At the end of September, LSTC released a new dummy model as part of their dummy model family. All models are available to LS-DYNA customers, at no extra cost. The model is called "LSTC SID-IIs-D FAST".

The mesh of the fast SID-IIs version is based on LSTC's detailed model of the SID-IIs. The mesh of the detailed finite element model of the SID-IIs ADT was developed by LSTC by use of the TrueGrid software. TrueGrid is a Hexahedral Mesh Generator. The mesh is based on scanned data of an actual dummy. Further, the drawing package of the dummy was utilized for details that were unclear in the scanned data.

The SID-IIs-D FAST is a coarsely meshed model, which results in very low cpu time costs. It is intended for developments that require many simulations where cpu time savings can add up to significant numbers, like optimization runs, or as a ballast where dummy injury values are not the major importance.

Even with the simplifications in the FAST model over the detailed SID-IIs model the injury channels match physical tests fairly well. All important injury channels are output in the FAST model.

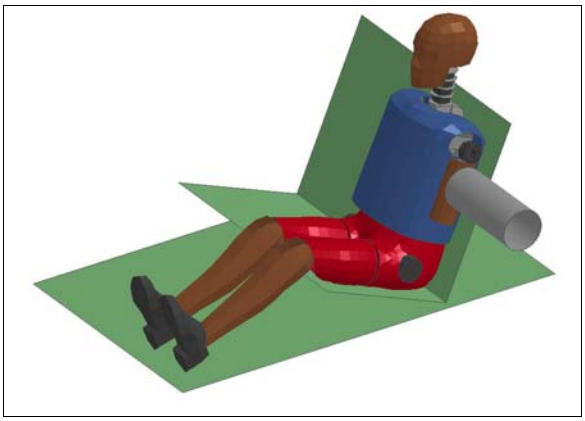
For the model calibration, test data from regular certification tests was available. The certification tests are head drop test, neck pendulum tests, shoulder impact tests, thorax impact test with arm, thorax impact test without arm, abdomen impact test, iliac impact test, and acetabulum impact test.

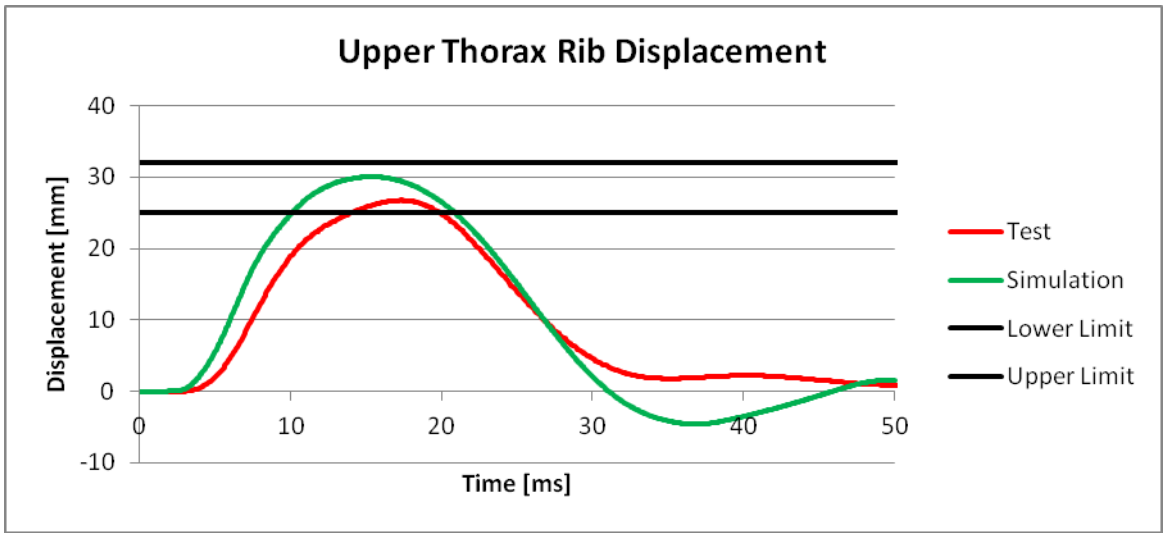
More detailed information and all calibration test results are available in the documentation that is included in the model package that is available on LSTC's ftp site.

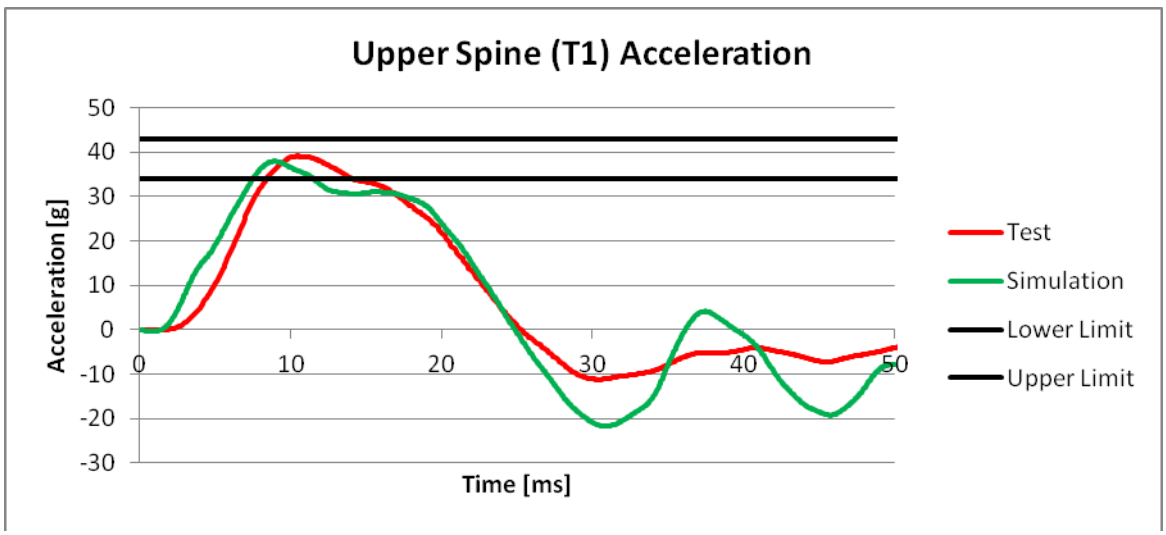
For help with access to LSTC's ftp site, please contact atds@lstc.com.

Selected calibration test results can be seen below:

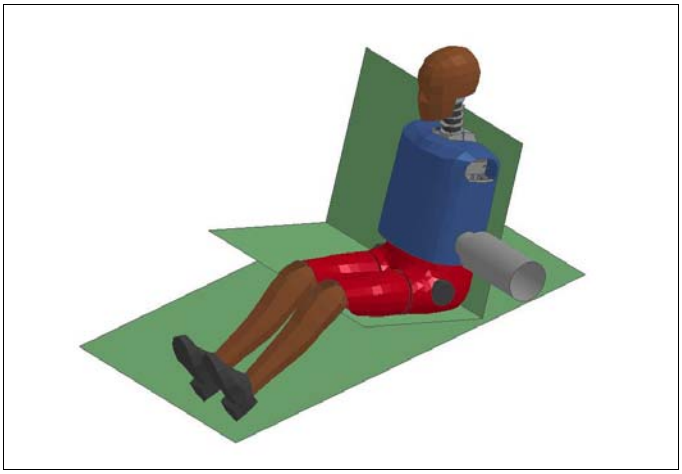
Thorax Impact Test with Arm

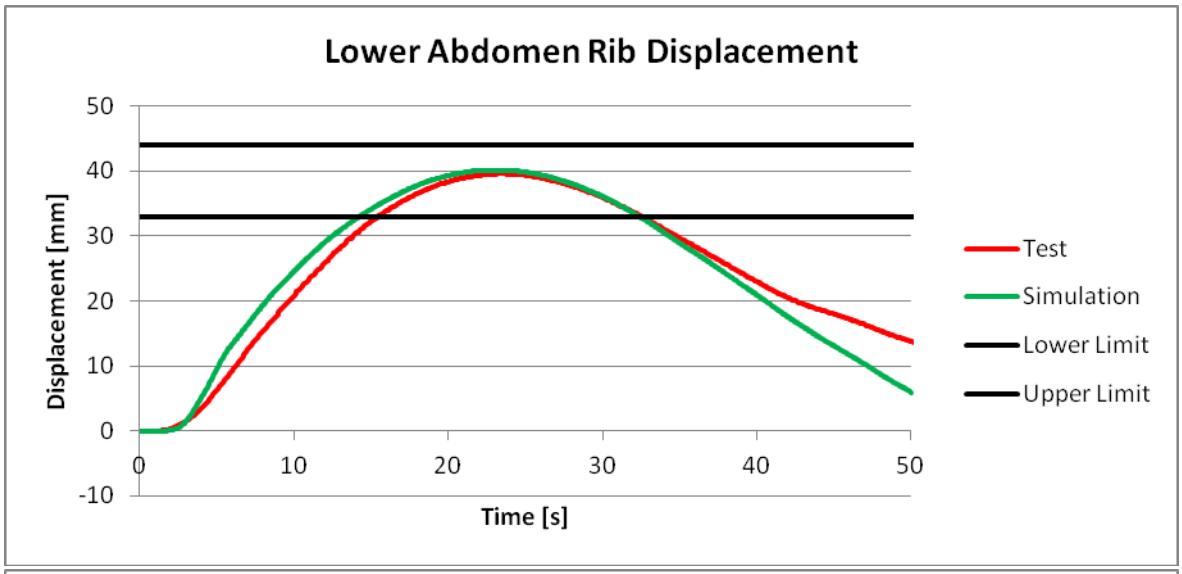


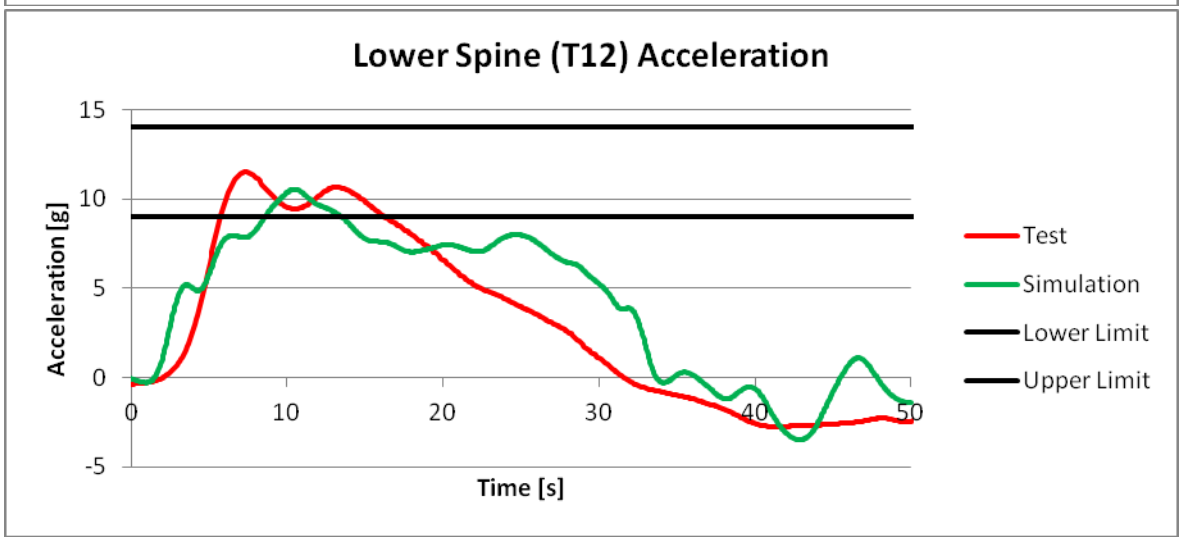




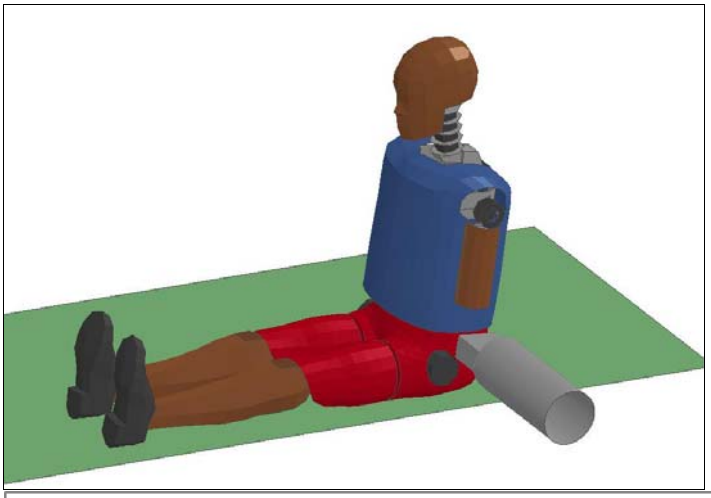
Abdomen Impact Test

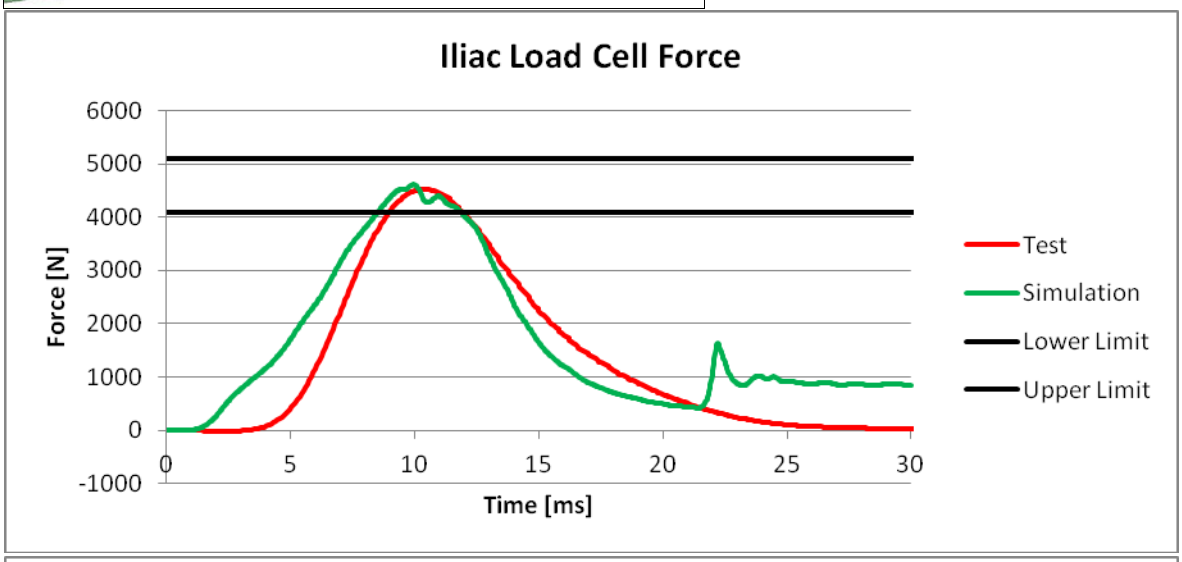






Iliac Impact Test




Iliac Load Cell Force
Force [N]
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4000
3000
2000
1000
0
-1000
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5
10
15
20
25
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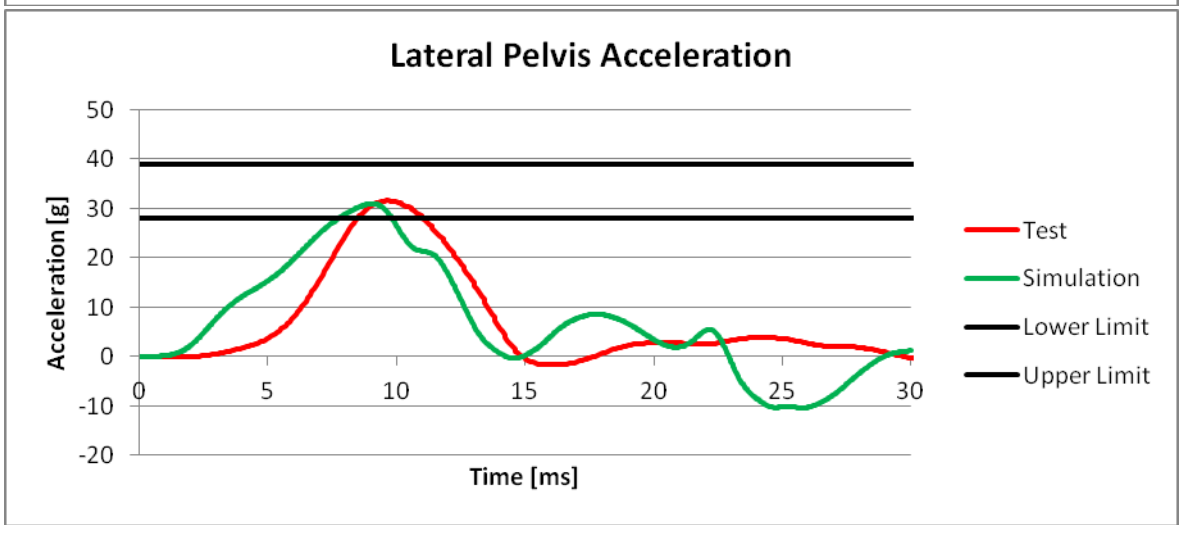
Time [ms]
Test
Simulation
Lower Limit
Upper Limit


Lateral Pelvis Acceleration
Acceleration [g]
50
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30
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10
0
-10
-20
0
5
10
15
20
25
30
Time [ms]
Test
Simulation
Lower Limit
Upper Limit

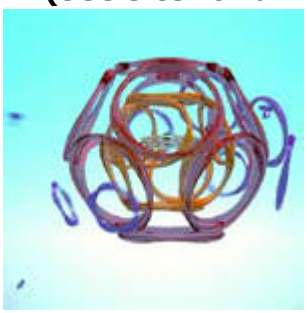
Website Showcase

The Snelson Atom

The following information is on the website by Kenneth Snelson. "My art is concerned with nature in its primary aspect, the patterns of physical forces in three dimensional space."

Please visit the site for full animations, and information - http://snelsonatom.com

Atom Self Contructs
(see site for animation)



My fantasy atom assembles itself in this animation. First the nucleus appears. Then one-by-one electrons arrive. They are free particles until they are snatched up by a ravenous nuclear electrical field and transformed into circular atomic orbits. They instantly become matter waves (Louis de Broglie) keyed to an energy level or shell. The electrons have entered with only a small mass, their negative electrical charge and a top-like spin. Within their orbit, revolving at one percent of the speed of light, the negative electrical charge is smeared throughout the matter-wave ring and provides an orbital magnetic field. Unlike light waves matter-waves are impenetrable to one another (Pauli principle) enabling the electrons to pack the atom's shells like eggs in a box. With these sets of forces the electrons interact with one another and build shells. Larger shells admit more electrons. When a shell is filled new members begin another shell until finally all energy states are filled and the whole atom becomes electrically neutral.

Energy Shift
(See site for animation)

This animation represents a hydrogen atom's single electron undergoing energy transformations. In this sequence light (energy) enters the atom from outside and transfers the electron's matter-wave orbit to a higher energy state, moving it from shell to shell. The light is again expelled and the electron falls to a lower energy level. Incoming light expands the atom. Outgoing energy contracts the atom, a process analogous to breathing in and breathing out.

"Where You At?"

http://www.e1ftwgames.com/whereyouat/Home.html

The Best GPS Friend Tracking App for iOS!

100% free.

"Where You At?"

This GPS Friedn Tracking APP for iOS, offers one touch secure GPS location sharing between devices. It has real-time directions and estimated arrival time.

"Where You At" is compatible with iPod Touch, iPad 1, iPad 2, iPhone 3G, iPhone 3GS, iPhone 4, iPhone 4S. The App requires iOS 4.1 or later. "Where You At" has been iOS 5 tested and approved.

Among the features for "Where You At" are:

- Facebook integration with friends list.
- Track as many friends as you want.
- Real Time direction updating.
- Turn-By-Turn directions.
- Estimated Time of Arrival.
- Background GPS tracking.
- Cancel tracking at anytime.
- FREE to download.

Top Crunch.org

SGI
Submission Date:
September 25, 2011

http://www.topcrunch.org

The TopCrunch project was initiated to track the aggregate performance trends of high performance computer systems and engineering software. Instead of using a synthetic benchmark, actual engineering software applications are used with real data and are run on high performance computer systems.

Vendor/Submitter - SGI/Applications Engineering

Computer/Interconnect

Rackable? C2005-TY3
Mellanox® Technologies ConnectX-2® IB QDR MT26428

Processor	Computer Interconnect	#Nodes x #Processors per Node x #Cores Per Processor = Total #CPU	Time (Sec)	Benchmark Problem
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	3 x 2 x 6 = **36**	2916	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	4 x 2 x 6 = **48**	2244	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	8 x 2 x 6 = **96**	1299	3 vehicle Collision

Top Crunch.org - SGI

Processor	Computer Interconnect	#Nodes x #Processors per Node x #Cores Per Processor = Total #CPU	Time (Sec)	Benchmark Problem
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	16 x 2 x 6 = **192**	764	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	32 x 2 x 6 = **384**	519	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	64 x 2 x 6 = **768**	388	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	64 x 2 x 6 = **768**	388	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	128 x 2 x 6 = **1536**	375	3 vehicle Collision
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	96 x 2 x 6 = **1152**	43	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	1 x 2 x 6 = **12**	568	Neon refined revised

Top Crunch.org - SGI

Processor	Computer Interconnect	#Nodes x #Processors per Node x #Cores Per Processor = Total #CPU	Time (Sec)	Benchmark Problem
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	16 x 2 x 6 = **192**	70	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	2 x 2 x 6 = **24**	316	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	32 x 2 x 6 = **384**	52	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	4 x 2 x 6 = **48**	179	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	64 x 2 x 6 = **768**	46	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	8 x 2 x 6 = **96**	110	Neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	1 x 2 x 6 = **12**	8103	3 Vehicle Collision

Top Crunch.org - SGI

Processor	Computer Interconnect	#Nodes x #Processors per Node x #Cores Per Processor = Total #CPU	Time (Sec)	Benchmark Problem
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	4 x 2 x 6 = **48**	22043	Car2car
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	8 x 2 x 6 = **96**	12615	Car2car
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	16 x 2 x 6 = **192**	6537	Car2car
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	32 x 2 x 6 = **384**	3814	Car2car
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	32 x 2 x 6 = **384**	549	3 Vehicle Collision
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	4 x 2 x 6 = **48**	2270	3 Vehicle Collision
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	8 x 2 x 6 = **96**	1335	3 Vehicle Collision

Top Crunch.org - SGI

Processor	Computer Interconnect	#Nodes x #Processors per Node x #Cores Per Processor = Total #CPU	Time (Sec)	Benchmark Problem
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	16 x 2 x 6 = **192**	793	3 Vehicle Collision
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	32 x 2 x 6 = **384**	63	neon refined revised
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	16 x 2 x 6 = **192**	78	neon refined revised
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	8 x 2 x 6 = **96**	117	neon refined revised
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	4 x 2 x 6 = **48**	188	neon refined revised
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	1 x 2 x 6 = **12**	580	neon refined revised
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	128 x 2 x 6 = **1536**	1769	Car2car

Top Crunch.org - SGI

Processor	Computer Interconnect	#Nodes x #Processors per Node x #Cores Per Processor = Total #CPU	Time (Sec)	Benchmark Problem
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	64 x 2 x 6 = **768**	2361	Car2car
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	32 x 2 x 6 = **384**	3646	Car2car
Altix ICE 8400EX?/Mellanox® Technologies ConnectX-2® IB QDR	Intel® Xeon® Hexa Core X5690 3.47GHz	16 x 2 x 6 = **192**	6091	Car2car
Rackable? C2112-4TY14/Mellanox® Technologies ConnectX-2® IB QDR MT26428	Intel® Xeon® Hexa Core X5675 3.07GHz	8 x 2 x 6 = **96**	13112	Car2car

Aerospace Information

The Stealth

Review - A. Giaccana.

The following information, does not represent any software, participating company, or person thereof, or of FEA Information news.. It is solely based on staff choice of a Jet Fighter to give information to the readership.

Some Facts on The Northrop Grumman B-2 Spirit (also known as the Stealth Bomber)

Development originally started under the "Advanced Technology Bomber" (ATB)

The B-2's low-observable, or "stealth", characteristics give it the ability to penetrate an enemy's most sophisticated anti-aircraft defenses to attack its most heavily defended targets.

The bomber's stealth comes from a combination of reduced acoustic, infrared, visual and radar signatures, making it difficult for opposition defenses to detect, track and engage the aircraft. Many specific aspects of the low-observability process remain classified.

The B-2's composite materials, special coatings and flying wing design, which reduces the number of leading edges, contribute to its stealth characteristics.

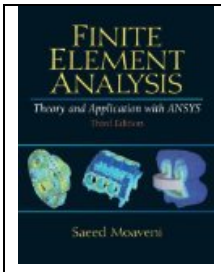
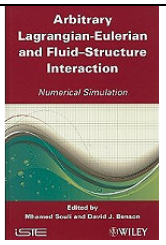
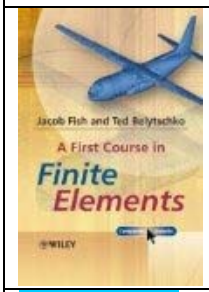
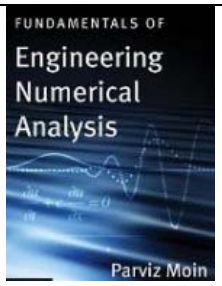
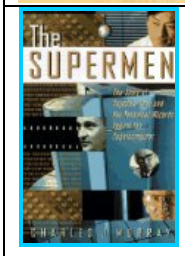
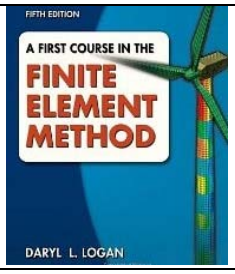
The Spirit has a radar signature of about 0.1 m2. Each B-2 requires a climate-controlled hangar large enough for its 172-foot wingspan to protect the operational integrity of its sophisticated radar absorbent material and coatings. The engines are buried within the wing to conceal the induction fans and hide their exhaust.

The blending of low-observable technologies with high aerodynamic efficiency and large payload gives the B-2 significant advantages over previous bombers

Reference Library

Available Books

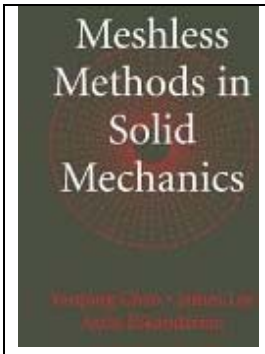
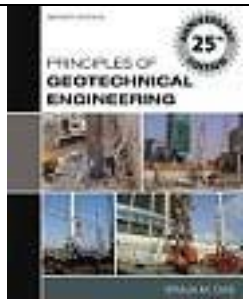
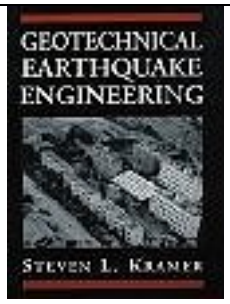
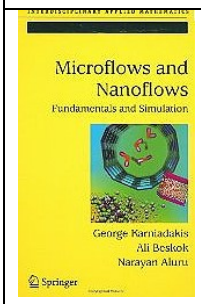
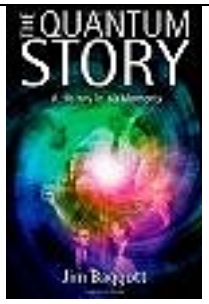
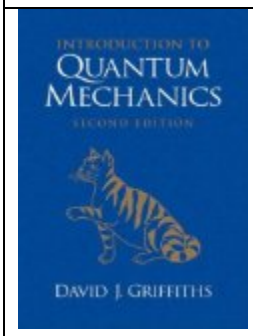
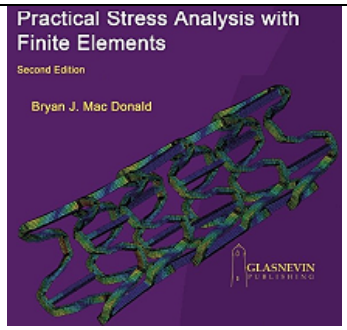
Amazon

	Finite Element Analysis Theory and Application with ANSYS (3rd Edition)		Arbitrary Langrangian-Eulerian and Fluid Structure Interaction.
	Isogeometric Analysis: Toward Integration of CAD and FEA		NURBS for Curve & Surface Design: From Projective Geometry to Practical Use
	A First Course in Finite Elements		Engineering Numerical Analysis
	Go To Book at Amazon		A first Course in The Finite Element Method

Reference Library

Available Books

Amazon

 Meshless Methods in Solid Mechanics	 Principles of Geotechnical Engineering	 Geotechnical Earthquake Engineering
 Microflows and Nanoflows	 The Quantum Story: A History in 40 Moments	 The Quantum World: Quantum Physics for Everyone
 Introduction to Quantum Mechanics (2nd Edition	 Practical Stress Analysis With Finite Elements	

Solutions

A preprocessor is a program that processes its input data to produce output. This data is then used as input to another program.

BETA CAE Systems S.A.

http://www.beta-cae.gr/

Provides complete CAE pre- and post-processing solutions. ANSA, the world wide standard pre-processor and full product modeler for LS-DYNA, with integrated Data Management and Task Automation. μETA, with special features for the high performance an effortless 3D & 2D post-processing of LS-DYNA results.

Engineering Technology Associates, Inc.

http://www.inventiumsuite.com

PreSys is an advanced Pre/Post Processor. PreSys is a full-featured, core solution that can be used on its own or with a variety of available add-on applications. The system offers advanced automeshing tools to provide the highest quality mesh with little CAD data preparation. It also features a scripting interface and model explorer feature for in-depth data navigation.

Oasys, Ltd

http://www.oasys-software.com/dyna/en/

Oasys Primer is a model editor for preparation of LS-DYNA input decks. - Oasys D3Plot is a 3D visualization package for post-processing LS-DYNA analyses using OpenGL® (SGI) graphics.

JSOL Corporation

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

JVISION is a general purpose pre-post processor for FEM software. Designed to prepare data for, as well as support, various types of analyses, and to facilitate the display of the subsequent results.

Livermore Software Technology Corporation

http://www.lstc.com

LS-PrePost is an advanced interactive program for preparing input data for LS-DYNA and processing the results from LS-DYNA analyses.

ETA – DYNAFORM & VPG

http://www.eta.com

Includes a complete CAD interface capable of importing, modeling and analyzing, any die design. Available for PC, LINUX and UNIX, DYNAFORM couples affordable software with today's high-end, low-cost hardware for a complete and affordable metal forming solution.

ETA – VPG

http://www.eta.com

Streamlined CAE software package provides an event-based simulation solution of nonlinear, dynamic problems. eta/VPG's single software package overcomes the limitations of existing CAE analysis methods. It is designed to analyze the behavior of mechanical and structural systems as simple as linkages, and as complex as full vehicles.

OASYS software for LS-DYNA

http://www.oasys-software.com/dyna/en/

Oasys software is custom-written for 100% compatibility with LS-DYNA. Oasys PRIMER offers model creation, editing and error removal, together with many specialist functions for rapid generation of error-free models. Oasys also offers post-processing software for in-depth analysis of results and automatic report generation.

ESI Group Visual-CRASH For DYNA

http://www.esi-group.com

Visual-Crash for LS-DYNA helps engineers perform crash and safety simulations in the smoothest and fastest possible way by offering an intuitive windows-based graphical interface with customizable toolbars and complete session support. Being integrated in ESI Group's Open VTOS, an open collaborative multi-disciplinary engineering framework, Visual-Crash for DYNA allows users to focus and rely on high quality digital models from start to finish. Leveraging this state of the art environment, Visual Viewer, visualization and plotting solution, helps analyze LS-DYNA results within a single user interface.

BETA CAE Systems S.A.– ANSA

http://www.beta-cae.gr

Is an advanced multidisciplinary CAE pre-processing tool that provides all the necessary functionality for full-model build up, from CAD data to ready-to-run 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

http://www.beta-cae.gr

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

SGI

HPC Cloud Cyclone™

USA

Complete Information can be found on the SGI Website including:

- Cyclone™ and LS-DYNA® Success Story
- IDC White Paper - Cyclone Supported Applications
- Cyclone Usage Diagram
  http://www.sgi.com/products/hpc_cloud/cyclone/index.html

Cyclone™ is the world's first large scale on-demand cloud computing service specifically dedicated to technical applications. Cyclone capitalizes on over twenty years of SGI HPC expertise to address the growing science and engineering technical markets that rely on extremely high-end computational hardware, software and networking equipment to achieve rapid results. Cyclone supports a number of leading applications partners and five technical domains, including computational fluid dynamics, finite element analysis, computational chemistry and materials, computational biology and ontologies.

Two Service Models: Cyclone is available in two service models: Software as a Service (SaaS) and Infrastructure as a Service (IaaS). With SaaS, Cyclone customers can significantly reduce time to results by accessing leading-edge open source applications and best-of-breed commercial software platforms from top Independent Software Vendors (ISVs). The IaaS model enables customers to install and run their own applications.

LS-DYNA® Implicit Hybrid Technology on Advanced SGI® Architectures*

White Paper pdf format is at URL: http://www.sgi.com/pdfs/4231.pdf

Olivier Schreiber, Scott Shaw, Brian Thatch - SGI Application Engineering

Bill Tang, - SGI System Engineering

Gridcore AB

Gompute on demand®

Sweden

Gompute on demand®

A Cloud HPC service oriented to Technical and Scientific users.

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) a 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.

Website: www.gompute.com
Website: www.gridcore.se

CADFEM GmbH

The Complete Training Courses Offered Can Be Found At: http://www.cadfem.de
Please check the site for accuracy and changes.
Among the many course offering are the following:

Introduction to simulation with ANSYS Workbench for design engineers
11/15 - Gerlafin. (CH)
12/07 - Dortmund (DE)

ANSYS Workbench for design engineers - Supplemental workshop for introduction to
11/17 - Wien (AT)
12/14 - Aadorf (CH)

ANSYS Workbench and ANSYS Fatigue for design engineers - Fatigue analyses 11/17 - L.-Echt. (DE)

Explicit structural mechanics with ANSYS LS-DYNA and LSTC LS-DYNA - Introduction
11/16 - Hannover (DE)

Advanced parametric simulation with ANSYS Workbench and optiSLang
12/16

Explicit structural mechanics with ANSYS Workbench and LS-DYNA
11/16 - Hannover (DE

Additional Courses are offered – please check the website for upcoming dates for:

- FTI Forming Suite
- DIGIMAT
- DIFFPACK

Individual Training:

Take advantage of the expertise of our specialists and get to know how simulation processes in your company can be arranged in an optimal way.

Let us combine your expert knowledge in your particular company questions with our experience in handling with ANSYS and ANSYS Workbench. In an individual training we can develop efficient solution approaches hand in hand and we help you to use our software effectively.

DYNAmore

Germany

http://www.dynamore.de/seminars/

Intro LS-DYNA

Dr. T. Graf,
Dr. S. Hartmann
Nov. 03, 28

Meshless Methods

Dr. C.-T. Wu
Nov. 07

Intro LS-PrePost

J. Hoffmann
Nov 30

User Interfaces

Dr. Tobias Erhart
Novermber 10th

Crash Analysis

P. Du Bois
December 06

Penetration

Paul Du Bois, Dr. Len Schwer
December 19

Blast Modeling

Paul Du Bois, Dr. Len Schwer
December 21

Free Infoday

DYNAstart

Nov 03
Dec 13

Support Occupant

Dec 05

Livermore Software Technology Corporation

USA

The Complete Training Courses with any changes can be found at http://www.lstc.com

For questions contact Training Coordinator: Cathie Walton Cathie@lstc.com

California

11/7/2011 11/7/2011 Mon
LS-PrePost (no charge with Intro to LS-DYNA)

11/8/2011 11/11/2011 Tue-Fri
Intro to LS-DYNA (3-1/2 days; half day on Friday)

11/14/2011 11/15/2011 Mon-Tue
Smoothed Particle Hydrodynamics in LS-DYNA

11/16/2011 11/17/2011 Wed-Thurs
Advanced ALE Applications

Michigan

12/8/2011 12/9/2011 Thurs-Fri
Advanced Options in LS-DYNA

12/12/2011 12/12/2011 Mon
LS-PrePost (no charge with Intro to LS-DYNA)

12/13/2011 12/16/2011 Tue-Fri
Intro to LS-DYNA (3-1/2 days; half day on Friday)

DYNAmore Nordic AB

Sweden

For complete information and changes please check website http://www.dynamore.se

Review - The LS-DYNA and ANSA information day on October 11 last week attracted more than 110 CAE-professionals. The info-day took place at Hotel 11 in the old docks area in Gothenburg. As always, these meetings are a great opportunity to learn, get the latest news, and mingle with fellow professionals. And we are already planning for the next meeting in Gothenburg in the autumn of 2012 – Welcome!

Notable presentations included:

•Dr. John Hallquist, Latest news on LS-DYNA 971 and the coming 980-version
•BETA CAE Systems, ANSA and mETA in Crash and Maritime applications
•Dr. André Haufe, A presentation of recent failure models for crash analysis in LS-DYNA
•Dr. Thomas Borrvall, Selective mass scaling in LS-DYNA
•Gridcore, About the GOMPUTE system

Selected presentations will be available for downloading within a couple of weeks.

http://www.dynamore.se/courses/

LS-DYNA, Simulation of sheet metal forming processes
November 9, 2011
Dr. Mikael Schill - Linköping

LS-DYNA, implicit analysis
November 15, 2011
Dr. Thomas Borrvall - Linköping

ANSA & Metapost, Introductory course
November 23, 2011
David Karlsson Fars Hatt, - Kungälv

Example of special courses (on request) Course No. of days

ANSA/Metapost,
Advanced course 3
LS-DYNA & Primer,
occupant models and barriers 3
LS-DYNA,
Polymeric Materials 2
LS-DYNA,
Blast and Penetration 2
LS-DYNA & Primer,
folding, modelling - inflating airbags 2
LS-DYNA,
Ale and Euler 2
TrueGrid,
Introductory course 2
TrueGrid,
Advanced course 3
Primer,
Introductory course 1
Dynaform,
Introductory course 1

Alliance Services Plus (AS+)

France

The complete Training Courses offered can be found at
http://www.asplus.fr/ls-dyna

Please check the site for accuracy and changes.

Among the many course offerings are the following:

Other regular courses (in Paris) …

LS-DYNA Unified Introduction Implcit & Explicit Solver
November 21-24

Switch from LS-PrePost 2.X to 3.X
December 14

LS-DYNA SPH
November 8-9

LS-PrePost 3.0 – Advanced meshing capabilities
December 15

LS-DYNA User Options
to be announced

LS-DYNA – Polymeric materials – By Paul DU BOIS
December 12-13

Shanghai Hengstar Technology Co. Ltd.

China

Email: info@hengstar.com
Phone: +86-021-61630122

2011	5	6	7	8	9	10	11	12
An Introduction to LS-DYNA(High Level)								
Crashworthiness Simulation with LS-DYNA								
Passive Safety and Restraint Systems Design								
LS-Prepost, LS-DYNA MPP, Airbag Simulation with LS-DYNA								
Pedestrian Safety and Passive Safety Simulation with LS-DYNA								
Crashworthiness Theory and Technology, Introduction of LS-OPT which is based on LS-DYNA								
Concrete & Geomaterial Modeling, Blast Modeling with LS-DYNA								
Frontal Restraint Systems according to FMVSS 208 and Euro NCAP								
Crashworthy Car Body disinterested, Simulation, Optimization								
Hot stamping with LS-DYNA								

ETA

USA

http://www.eta.com for training dates and additional information

Introduction to DYNAFORM

Introduction to DYNAFORM for sheetmetal forming applications. Includes Die Face Engineering and Blank Size Estimation tutorials.

Duration: 2 day course

Using PreSys with NISA

An introduction to PreSys for finite element modeling and the NISA finite element solver. This course will teach the student how to use PreSys to create their finite element model, set up a NISA simulation and review the results of the simulation. Workshop problems will be used to demonstrate of the principles discussed in the course material.

Duration: 1 day course

Introduction to PreSys

An introduction to the PreSys software for finite element modeling and results visualization. This course provides the basics for creating finite element model from CAD data, property definition and analysis preparation and visualization of simulation results. Workshop problems will be used to demonstrate all of the principles discussed in the course material.

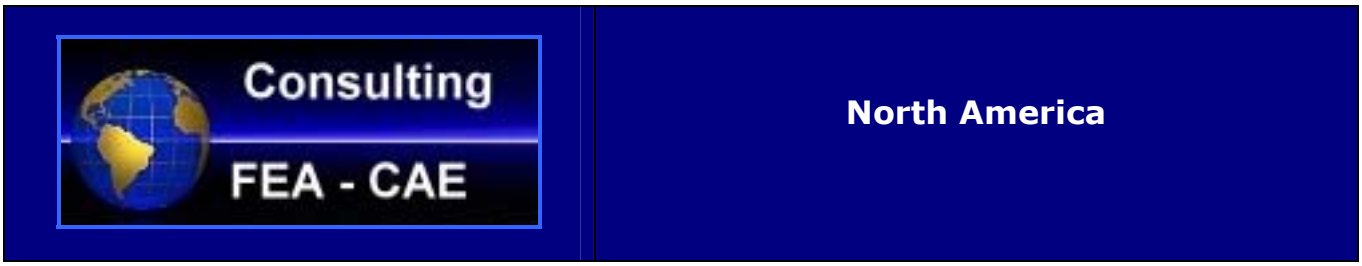
Duration: 1 day course

Introduction to LS-DYNA

This course is intended for the new user, or those who might like a refresher on the basics of creating, running, debugging and analyzing an LS-DYNA model. The course will be in a lecture/workshop format, with the user running example models and post-processing the results.

Duration: 2 day course

Please contact support@eta.com This e-mail address is being protected from spambots. You need JavaScript enabled to view it , call (248) 729-3010, or register online to reserve a seat at the desired training session. Space is limited, so please reserve a seat as early as possible.



Canada	Metal Forming Analysis Corporation - MFAC - Contact: galb@mfac.com
USA	Engineering Technology Associates, Inc Contact: sales@eta.com
USA	SE&CS Contact: len@schwer.net
USA	Predictive Engineering Contact: george.laird@predictiveengineering.com
USA	CAE Associates Contact: info@caeai.com
USA	AEG Product Engineering Services Contact: support@engineering-group.com
USA	APACS Services Inc. Contact: apacs@comcast.net

EUROPE

DENMARK	FaurConAps Contact: faurholdt@faurcon.com
FRANCE	ALYOTECH TECHNOLOGIES Contact: nima.edjtemai@alyotech.fr
FRANCE	ALLIANCE SERVICES PLUS Contact: v.lapoujade@asplus.fr
Germany	CADFEM GmbH Contact: ls-dyna@cadfem.de
Germany	DYNAmore Contact: uli.franz@dynamore.de
ITALY	EnginSoft SpA Contact: info@enginsoft.it
Netherlands	Infinite Simulation Systems, B.V Contact: j.mathijssen@infinite.nl
Sweden	DYNAmore Nordic Contact marcus.redhe@dynamore.se
UK	OVE ARUP & PARTNERS Contact: brian.walker@arup.com

Asia Pacific

Australia	Leading Engineering Analysis Providers, LEAP Contact: info@leapaust.com
China	Ove Arup & Partners Contact: stephen.zhao@arup.com
China	ETA China Contact: lma@eta.com.cn
China	Shanghai Hengstar Technology Corp. http://www.hengstar.com
INDIA	nHance Engineering Solutions Pvt Ltd Contact: lavendra.singh@arup.com
INDIA	EASi Engineering Contact: rvenkate@easi.com
JAPAN	JSOL Corporation Contact: cae-info@sci.jsol.co.jp
JAPAN	Itochu Techo-Solutions Corp. Contact: ls-dyna@ctc-g.co.jp
JAPAN	LANCEMORE Contact: info@lancemore.jp
KOREA	THEME Engineering Contact: wschung@kornet.net
KOREA	KOREAN SIMULATION TECHNOLOGIES Contact: young@kostech.co.kr

Global

Alpha Order by Country

Australia	Leading Eng. Analysis Providers - LEAP http://www.leapaust.com.au/ info@leapaust.com.au
Canada	Metal Forming Analysis Corp - MFAC http://www.mfac.com/ galb@mfac.com
China	ETA China http://www.eta.com.cn/ lma@eta.com.cn
China	OASYS Ltd. (software house of Arup) http://www.oasys-software.com/dyna/en stephen.zhao@arup.com
China	Shanghai Hengstar Technology Corp. http://www.hengstar.com
France	ALYOTECH TECH. http://www.alyotech.fr nima.edjtemai@alyotech.fr
France	ALLIANCE SVCE. PLUS - AS+ http://www.asplus.fr/ls-dyna v.lapoujade@asplus.fr
Germany	CADFEM http://www.cadfem.de/en lsdyna@cadfem.de
Germany	DYNAmore http://www.dynamore.de/ uli.franz@dynamore.de
Greece	PhilonNet Engineering Solutions http://www.philonnet.gr stavroula.stefanatou@philonnet.gr

Global

India	OASYS Ltd. (software house of Arup) http://www.oasys-software.com/dyna/en lavendra.singh@arup.com
India	EASi Engineering http://www.easi.com/ rvenkate@easi.com
India	CADFEM Eng. Svce India http://www.cadfem.in/ info@cadfem.in
Italy	EnginSoft SpA http://www.enginsoft.it/ info@enginsoft.it
Japan	JSOL Corporation http://www.jsol.co.jp/english/cae cae-info@sci.jsol.co.jp
Japan	ITOCHU Techno-Solutions Corp. http://www.engineering-eye.com/ ls-dyna@ctc-g.co.jp
Japan	FUJITSU http://jp.fujitsu.com\solutions\hpc\app\lsdyna\

Global

Korea	Theme Engineering http://www.lsdyna.co.kr/ wschung@kornet.net
Korea	Korea Simulation Technologies http://www.kostech.co.kr young@kostech.co.kr
Netherlands	Infinite Simulation Systems, BV http://www.infinite.nl/ j.mathijssen@infinite.nl
Sweden	DYNAmore Nordic http://www.dynamore.se marcus.redhe@dynamore.se
Taiwan	Flotrend Corporation http://www.flotrend.com.tw/ gary@flotrend.tw
Russia	State Unitary Enterprise –STRELA info@ls-dynarussia.com

Global

United Kingdom	OVE ARUP & PARTNERS http://www.oasys-software.com/dyna/en/ dyna.sales@arup.com
USA	Livermore Software Tech. Corp. - LSTC http://www.lstc.com/ sales@lstc.com
USA	Engineering Tech. Assc. Inc. – ETA http://www.eta.com/ sales@eta.com
USA	DYNAMAX http://www.dynamax-inc.com/ sales@dynamax-inc.com

MSC Software

October 13th, 2011

MSC Software and The Ohio State University Collaborate on Vehicle Design Innovation Research
MSC's FEA and Motion simulation products are being used to facilitate cutting edge research in automotive design innovation

http://www.mscsoftware.com/About-Us/News/Default.aspx?articleid=1335

SANTA ANA, CA - (October 13th, 2011) - MSC Software Corporation, the leader in multidiscipline simulation solutions that accelerate product innovation, today announced its collaboration progress with the Smart Vehicle Concepts Center (SVC) at The Ohio State University, where they focus on key research projects that will vastly improve vehicle design and ultimately lead to enhanced vehicle performance.

The mission of the SVC is as follows: (1) conduct basic and applied research on the characterization of smart materials; (2) build an unmatched base of research, engineering education, and technology transfer with emphasis on improved vehicle performance; and (3) develop well-trained engineers and researchers (at the MS and PhD levels) with both experimental and theoretical viewpoints.

MSC Software was granted the 'Invited Observer' status within the SVC based on in-kind support (in terms of software) as well as endorsement by the SVC Industrial Advisory Board. The software provided by MSC includes The University FEA Bundle featuring MD Nastran, Patran, Marc, & Dytran; and The University Motion Bundle featuring MD Adams, Adams/Car, & Easy5. The SVC was provided with a 5-user pack of annual, networked, academic licenses for each bundle to facilitate cutting edge research.

At the Fifth Semi-Annual Meeting that will be held February 8-9, 2012 at The Ohio State University, MSC Software will be giving a short course on "Materials Modeling Using Finite Elements". The SVC is very excited to provide this course at their meeting.

Professor Singh talked about the benefits of collaborating with MSC Software, "Utilizing MSC's simulation technology is a win/win situation for our students as it provides the opportunity to work with the latest calculation codes. This capability allows the students to verify their analytical solutions and to justify their assumptions."

About The Smart Vehicle Concepts Center (SVC)
The Smart Vehicle Concepts Center (SVC) based at The Ohio State University was launched in July 2007. The Center is supported through a grant by the

National Science Foundation and through industry sponsorship. Current projects include the development of smart materials and devices for vehicle use. This pre-competitive technology is shared among contributing members. Currently headed by Professor Rajendra Singh of The Ohio State University, its sponsors include 9 industrial members, 2 affiliate members and 3 invited observers, with MSC Software being one of them. For more information on Smart Vehicle Concepts Center, please visit http://SmartVehicleCenter.org. For more information on National Science Foundation I/UCRC, please visit http://www.nsf.gov/eng/iip/iucrc.

About MSC Software
MSC Software is one of the ten original software companies and the worldwide leader in multidiscipline simulation. As a trusted partner, MSC Software helps companies improve quality, save time and reduce costs associated with design and test of manufactured products. Academic institutions, researchers, and students employ MSC technology to expand individual knowledge as well as expand the horizon of simulation. MSC Software employs 1,000 professionals in 20 countries. For additional information about MSC Software's products and services, please visit: www.mscsoftware.com.

Article Contacts
Leslie Rickey
Email: leslie.rickey@mscsoftware.com
Phone #: (714) 444-8978

SGI

October 17, 2011

http://www.sgi.com/company_info/newsroom/press_releases/2011/october/hadoop.htm

SGI Establishes New World Record Apache Hadoop Benchmark

Fremont, Calif. — October 17, 2011 — SGI (NASDAQ: SGI), the trusted leader in technical computing, today announced that it has established a new world record performance benchmark for Terasort data processing and analysis using Apache Hadoop clusters running on Cloudera's Distribution Including Apache Hadoop (CDH). The company, which recently joined the Cloudera Connect Partner Program, also announced separately that it has formed a distribution relationship with Cloudera that will allow it to build, sell and deploy commercial solutions based on and around Hadoop.

Results achieved in September, 2011 show that a 20-node SGI Hadoop cluster comprised of SGI® Rackable™ C2005-TY6 half-depth servers with Intel® Xeon® processor E5630 series, 48GB of memory, and 4x 1TB SATA HDDs running on Cloudera CDH3 took only 130 seconds to complete a Terasort with a job size of 100GB. Terasort helps derive the sort time for 1TB or any other amount of data in the Hadoop cluster, and is a benchmark that combines testing the HDFS and MapReduce layers of a Hadoop cluster. In this instance, Terasort scales super linearly on an SGI Rackable C2005-TY6 cluster running Cloudera distribution of Apache Hadoop (CDH3u0)

"SGI has been successfully deploying Hadoop customer installations of up to 40,000 nodes and individual Hadoop clusters of up to 4,000 nodes for a number of years now," said Bill Mannel, vice president of product marketing at SGI. "This benchmark, our growing presence, and our role in the Hadoop ecosystem, reflect our ongoing commitment to pushing the bar on performance and driving relationships that benefit our customers. As they wrestle with bigger and more complex data challenges every day they can trust SGI to deliver complete Hadoop solutions based on years of experience."

Hadoop is a powerful and disruptive open source technology that addresses challenges in the economics, flexibility and scalability for Big Data. Hadoop forms the infrastructure foundation at leading social media companies such as Facebook, LinkedIn and Twitter. It is the fastest growing 'big data' technology, with 26% of organizations using it today in data centers and in the Cloud.

About SGI – "….SGI, the trusted leader in technical computing…." Visit sgi.com information.
Contact Information: Ogilvy Public Relations,

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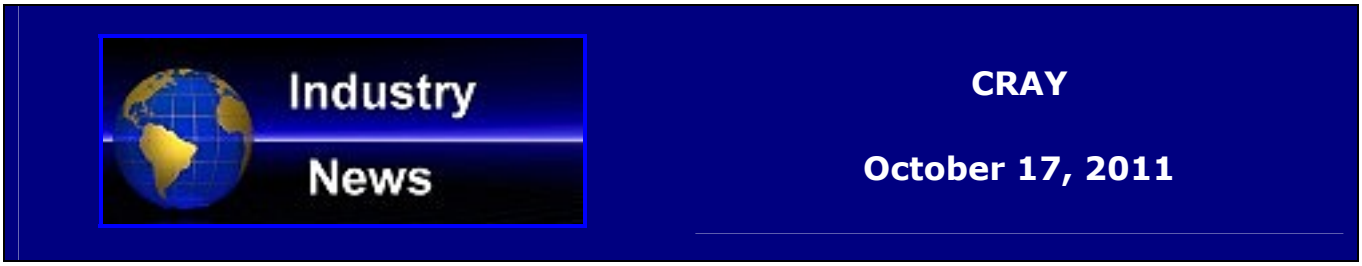

http://investors.cray.com/phoenix.zhtml?c=98390&p=irol-newsArticle_print&ID=1615561&highlight=

Cray Lands $97 Million Contract to Upgrade Supercomputer at Oak Ridge National Laboratory

SEATTLE, WA, Oct 11, 2011 -- Global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced the Company has signed a contract to upgrade the Cray XT5 supercomputer nicknamed "Jaguar" located at the Department of Energy's (DOE) Oak Ridge National Laboratory (ORNL) to a new Cray XK6 supercomputer, which will be nicknamed "Titan." When completed, the Titan system will have a peak performance between 10 and 20 petaflops (quadrillion mathematical calculations per second) of high performance computing (HPC) power.

With a groundbreaking combination of efficiency and scalability, the Titan system at ORNL will bring together the features of a proven, production petascale architecture with innovative NVIDIA(R) (NASDAQ: NVDA) Tesla(TM) graphic processing unit (GPU) technologies to create a supercomputer capable of unprecedented scale. This Cray XK6 system will feature productive, high performance software that leverages a proven, scalable system interconnect and a powerful blend of GPUs and general purpose central processors (CPUs) in a single, tightly integrated supercomputer. As a result, scientists and engineers at ORNL will be able to apply the resources of one the world's most powerful supercomputers to solving some of today's most pressing energy and environmental challenges.

"ORNL and Cray have been working together to optimize the Cray XK6 hardware and software architecture for several years. The result of this collaboration is a system specifically developed for scientific applications," said Jeff Nichols, Associate Laboratory Director for Computing and Computational Sciences at Oak Ridge National Laboratory. "In addition to efficiency and speed, the Cray programming environment allows researchers to continue using Fortran, C, and C++ languages to program the new accelerators."

Signing the contract to transform Jaguar into Titan marks a continuation of an ongoing, collaborative partnership between Cray and ORNL that has resulted in a number of significant supercomputing accomplishments. In 2008, Jaguar set a world record for computer speed with sustained performance of more than a petaflops on two scientific applications, and has subsequently run five applications above that threshold. Cray and ORNL look to

continue this trend as the lab's system evolves from a Cray XT5 machine to the new Cray XK6 supercomputer.

"Oak Ridge, the Department of Energy's Office of Science, and Cray have a history of accomplishing great things by continually pushing the boundaries of supercomputing," said Peter Ungaro, president and CEO of Cray. "Signing this contract is a significant milestone for our company and our partnership with Oak Ridge because the new system will enable even further amazing scientific achievements. When we announced the Cray XK6 a few months ago, we said it had an architecture capable of scaling to more than 50 petaflops, and Titan will be a major step toward achieving that goal."

Consisting of products and services, the multi-year, multi-phase contract is valued at more than $97 million. The first phase of the contract will include replacing the Cray XT5 compute blades with Cray XK6 compute blades, which will feature the upcoming AMD (NYSE: AMD) Opteron(TM) processors code-named "Interlagos," Cray's Gemini interconnect, and a subset of Cray XK6 nodes equipped with NVIDIA Tesla 20-series GPUs. The first phase is expected to generate more than $60 million in product revenue and is targeted to be completed in 2011. The second phase of the contract -- equipping the system with NVIDIA Tesla GPUs based on the next-generation architecture code-named "Kepler" -- is expected to be completed in the second half of 2012. The contract includes additional upgrade options beyond these two phases that, if exercised, would increase the total value of the contract.

The company had previously disclosed the first phase of the agreement as the order not yet secured that was anticipated to be more than $60 million in potential 2011 revenue. Shipments of the AMD "Interlagos" processors to be used for this system began later than originally anticipated. Although the impact of this delay is uncertain, the Company currently continues to target achieving acceptance of the initial phase of the contract in late 2011.

About the Cray XK6 Supercomputer

Launched in May of this year, the Cray XK6 system is a hybrid supercomputer that integrates Cray's Gemini interconnect, AMD Opteron processors code-named "Interlagos," and NVIDIA Tesla 20-Series GPUs. The unified CPU/GPU programming environment provides Cray XK6 users with tested tools, libraries, compilers and third-party software that is fully integrated with the system's hardware. By combining AMD Opteron processors with NVIDIA GPUs, Cray XK6 customers can run applications with either scalar or accelerator components, resulting in one of the first general-purpose GPU supercomputers that is capable of more than 50 petaflops of performance.

About Cray Inc.

As a global leader in supercomputing, Cray provides highly advanced supercomputers and world-class services and support to government, industry and academia. Cray technology is designed to enable scientists and engineers to achieve remarkable breakthroughs by accelerating performance, improving efficiency and extending the capabilities of their most demanding applications. Cray's Adaptive Supercomputing vision is focused on delivering innovative next-generation products that integrate diverse processing technologies into a unified architecture, allowing customers to surpass today's

limitations and meeting the market's continued demand for realized performance. Go to www.cray.com for more information.

Safe Harbor Statement

This press release contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934 and Section 27A of the Securities Act of 1933, including, but not limited to, statements related to Cray's ability to deliver the XK6 system upgrades to ORNL when expected, Cray's ability to deliver the XK6 upgrades that meet ORNL's needs, the expected ultimate value of the contract and the expected amount and timing of Cray revenue contribution from the contract. These statements involve current expectations, forecasts of future events and other statements that are not historical facts. Inaccurate assumptions and known and unknown risks and uncertainties can affect the accuracy of forward-looking statements and cause actual results to differ materially from those anticipated by these forward-looking statements. Factors that could affect actual future events or results include, but are not limited to, the risk that the XK6 system upgrades required by ORNL are not delivered in a timely fashion or do not perform as expected, the risk that the AMD "Interlagos" processor, shipments of which began later than originally anticipated, is not available to Cray in the quantities necessary when needed, the risk that certain planned U.S. government funding for ORNL becomes unavailable before the lease-to-purchase contract is converted to a purchase contract through third-party lease financing and as a result Cray is not able to collect amounts expected under the contract or complete the second phase of the contract, the risk that NVIDIA's next-generation "Kepler" GPUs are not available with the performance expected or when expected, and such other risks as are identified in the Company's quarterly report on Form 10-Q for the quarter ended June 30 2011, and from time to time in other reports filed by Cray with the U.S. Securities and Exchange Commission. You should not rely unduly on these forward-looking statements, which apply only as of the date of this release. Cray undertakes no duty to publicly announce or report revisions to these statements as new information becomes available that may change the Company's expectations.

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