FEA Information Engineering Solutions
Volume 3, Issue 08, August 2014

Mercedes-Benz Future Truck 2025

Toyota FT-1 Sports Car Concept

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. www.feapublications.com

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. www.feapublications.com
To sign up for the Traditional, or Simplified edition write to yanhua@feainformation.com

FEA Information Engineering Journal: ISSN #2167-1273, first published February, 2012
Available on www.feaiej.com

Platinum Participants

Participant Logo- Courtesy of Lancemore Co. Japan

BETA CAE Systems SA

CRAY

DatapointLabs

eta

esi

LANCEMORE Co.

GOMPUTE
A GRIDCORE COMPANY

JSOL

LSTC
Livermore Software Technology Corp.

Oasys
The Software House of Arup

KAIZENAT
Keep Improving

Comet
The performance engineering workspace

PENGUIN COMPUTING®

TERRABYTE Co.,Ltd

DFE TECH

LS-DYNA Online Training

Table of Contents

Announcements

Product & Internet Support - www.lstc.com/dynamat
Send Feedback to Suri Bala at suri@lstc.com

Available pdf presentation from LSTC sales@lstc.com

LS-DYNA for CFD Analysis
ICFD Solver Features

- Suitable for incompressible flows.
- Implicit solver to allow larger time steps.
- Optimal MPP scalability.
- Automatic mesh generation including boundary layer mesh.
- Turbulence models.
- Thermal solver.

Multiphysics

The ICFD solver is coupled to the solid mechanics solver to allow easy access to Fluid Structure Interaction (FSI) modeling.

It is also coupled to the solid thermal solver for conjugate heat transfer applications.

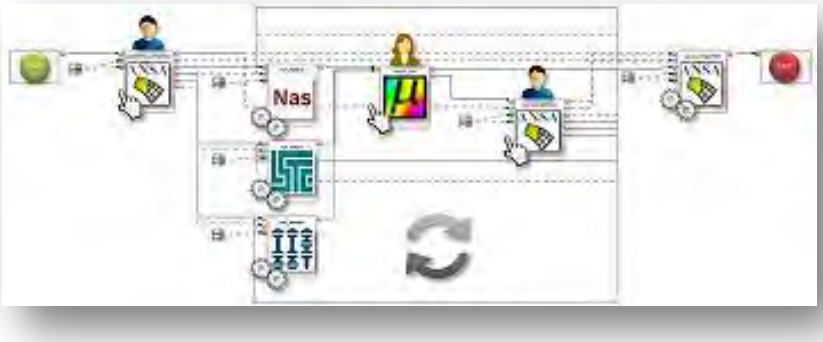
Large library of applications for FSI and conjugate heat transfer problems.

Showcased Published Book
Vibration Theory And Applications with Finite Elements
Alan Palazzolo

For participation in FEA Information Engineering Solutions, contact Anthony Giaccana agiac99@aol.com

Sincerely, Marsha Victory - Trent Eggleston - Suri Bala
FEA Information Inc. USA edition

http://www.beta-cae.gr/news/20140728_announcement_spdrm_v1.0.3.htm



The release of the SPDRM v1.0.3

About this release

Having hit the ground running, Simulation, Process, Data & Resources Manager (SPDRM), has already demonstrated its capabilities in facilitating the organization and planning of your simulation processes. Bolstering its initial steps following a meticulous approach, BETA CAE Systems S.A. announces the release of v1.0.3 with fixes on reported and noted issues.

The most notable resolved issues are listed by category below.

About SPDRM

Addressing the problem of contemporary CAE community to integrate data, processes and resources, BETA CAE Systems S.A. brings forth a new solution for driving high quality or enterprise level. The system requirements are modest and the learning curve is smooth.

and effective virtual product development procedures.

This new software tool, the Simulation Process, Data & Resources Manager (SPDRM), provides a simple and intuitive way to capture, deploy, and manage CAE process workflows by integrating the resources, the tools, and the data associated with these.

Reflecting a deep understanding of the demands of simulation and its role in the enterprise, it couples with the enterprise PDM system and integrates CAE into higher level business processes by delivering CAE tasks and associated data to analysts, engineers, designers, suppliers, and managers.

The architecture and implementation of SPDRM is scalable, so that it can be deployed in different levels, such as in team, department

This new software for the orchestration and mastering of simulation procedures gives breakthrough solutions to the bottlenecks faced while using legacy tools.

SPDRM brings significant benefits to today's virtual product development, such as:

- overall process consistency, at all levels
- standardization of the procedures
- harmonization of operations throughout the organization but also with its suppliers
- referability and traceability of data and meta-data, of their modifications and variations
- reduction of data redundancy
- process progress monitoring and the effective processes quality management
- reliable and referable documentation
- productivity increase thanks to the effective resources management through job delegation to available and competent resources
- repeatability of processes, even when using updated or different datasets and software tools
- quality improvement of the deliverables
- increase of confidence to CAE, plus the time and cost reduction of the overall simulation process

Known Issues Resolved

Data Management

- Occasionally, the "OverWrite" option was unavailable for Components with Status=WIP.
- The linked directories attached under DM Items can now be saved in the exported data structure.
- Permissions might be incorrectly applied during the creation of the directory structure in the exported data structure.
- An error could occur when removing a Component from the Structure.

Process Management

- An error could occur when deleting an application node while on running mode.
- Permissions might be incorrectly applied to the input files during the execution of a node.
- An error could occur when releasing an output slot of type "File" used for attachment to a DM entity.
- In some cases, the script variable for input slots of type "File" could return an incorrect value.
- An error could occur during the execution of the node if an input slot of type "File" referred to a local file.

Resources Management

The option to define a common password for all imported users is now supported.

Scripting

Defining the file path using a relative path might cause error in setting the "File" property when applying the dm.createDMItem script function.

The dm.setDMItemAttributes script function could return wrong error code when an invalid attribute value was defined.

Miscellaneous

The contents of the folders attached to DM Items might not be exported in the exported data structure when using the importDMPathsFromFile method of the ImportExportWS web service.

EVENTS: 2014 BETA CAE

North America Open Meeting
October 1, 2014, Plymouth, MI, USA
hosted by BETA CAE Systems USA Inc.

Japan Open Meeting in Shin Yokohama
October 14, 2014, Shin Yokohama, Japan
hosted by TOP CAE Corp.

Japan Open Meeting in Nagoya
October 17, 2014, Nagoya, Japan
hosted by TOP CAE Corp.

China Open Meeting in Beijing
November 4, 2014, Beijing, P.R.China
hosted by Beijing E&G Software Co. Ltd

China Open Meeting in Shanghai
November 7, 2014, Shanghai, P.R.China
hosted Shanghai Turing Info. Tech. Co., Ltd

•Ford India continued its growth momentum with sales of 15,282 vehicles in July in combined domestic wholesales and exports, up 24%
•Export momentum remains strong with 7,690 vehicles sold in July; domestic wholesales remain steady
•Improves supplies to meet domestic demand across products range, including Ford EcoSport, ahead of the festive season
•Ford India inaugurates Parts Distribution Center in Kolkata, company's fourth in India, to boost pan-India service reach

NEW DELHI, India, Aug. 1, 2014 – Ford India sold 15,282 vehicles in combined domestic wholesales and exports in July, a 24 percent increase from 12,338 vehicles sold in the corresponding month last year. July exports grew to 7,690 vehicles from 4,471 vehicles a year ago, while domestic wholesales remained steady at 7,592 units compared to 7,867 units sold in July last year.

"There are several indicators to suggest a gradual revival in customer sentiment in the past few months, including cues from the stock market and a steady improvement in manufacturing index," said Vinay Piparsania, executive director, Marketing, Sales and Service, Ford India. "As we approach the festive season, we expect a significant increase in footfalls at Ford showrooms across the country. We have improved supplies to expedite deliveries for all our models, including the bestselling EcoSport, to meet the expected rise in demand in the coming months."

In line with its philosophy of democratizing technology, Ford also launched an Innovate Mobility Challenge Series in eight different locations around the world in July, including Mumbai, Delhi and Chennai in India. The challenge invites developers to use Ford's Open XC program to create mobile phone applications that leverage vehicle data and real-time infrastructure information, such as traffic bottlenecks, for the benefit of fellow drivers. Each region has a specific challenge for participants to tackle and winners will be determined by a panel of Ford executives and local experts.

Ford also inaugurated its fourth Parts Distribution Centre in India in July, demonstrating the company's commitment to boost its service reach across India. The company also has regional parts warehouse in Chennai, Mumbai and Delhi.

www.arl.army.mil/www/default.cfm/default.cfm?article=2504 July 14, 2014

ARL's Rahul Gupta named ASME fellow -
By T'Jae Gibson, ARL Public Affairs Office

Dr. Rahul Gupta, an expert in blast-dynamic effect on structures and development of blast-resistant/energy-absorbing structures at the U.S. Army Research Laboratory, was named a Fellow with the American Society of Mechanical Engineers last week

Founded in 1880, ASME is "a not-for-profit membership organization that enables collaboration, knowledge sharing, career enrichment, and skills development across all engineering disciplines, toward a goal of helping the global engineering community develop solutions to benefit lives and livelihoods," according to its Website.

Gupta, a Hockessin, Del., resident, is one of only 3,298 Fellows out of 90,972 ASME members. He was informed of his selection in an announcement letter he received at his residence.

"I consider my promotion to the status of an ASME Fellow an honor for the ARL, for what we do protecting the lives of our Soldiers in the battlefield," Gupta said.

"ASME Fellows are an elite class of scientists and engineers who have made considerable advancements in the field of mechanical engineering through their pioneering original research," said Dr. Shashi Karna, an Army senior scientist and recognized expert in nanotechnology research. "These Fellows have made professional services to the mission of the ASSME toward serving the nation and the world, and are recognized by the community as leaders in their fields."

He said very few ARL scientists and engineers are elected to the Fellow grade "of the prestigious professional societies. It is a testimony to the pioneering, high-impact research contributions of Dr. Gupta to develop solutions to complex engineering problems to benefit the Soldiers that he has been elected as the ASME Fellow."

At the end of the month, Gupta will end a 12-month assignment as a technical assistant to the director of ARL's Weapons and Materials Research Directorate, where he studied the organization's business processes and functions as a key member of that section director's cabinet.

He's returning to the Protection Division to join the Warrior Injury Assessment Manikin Project. The manikin was created as a Soldier surrogate designed to meet realistic operational nuances to study and biomedically validate assessment tools monitoring human response during live-fire test and evaluation, and human response in a number of military-vehicle tests.

Prior to this current assignment, Gupta served as project lead (2006-07) for the numerical modeling and simulation encompassing blast, structural, and crew response for MaxxPro and MaxxPro DASH Mine Resistant and Ambush Protected (MRAP) vehicles used in Iraq and Afghanistan.

Gupta received an ARL Special Act Award for the development of enhanced underbody protection and seating for the U.S. Army Stryker vehicle. He is also the Army Collaboration Team of the Year Award recipient for the HMMWV Improvement Program. In addition to these awards, Gupta has co-authored a book on nanotechnology and been appointed as an adjunct faculty member at the University of Maryland, College Park.

Four New Solvers for Multiphysics Purposes

DES (Discrete Element Sphere)

A particle-based solver that implements the Discrete Element Method (DEM), a widely used technique for modeling processes involving large deformations, granular flow, mixing processes, storage and discharge in silos or transportation on belts. In LS-DYNA, each DE particle is a FEM node, making it easy to couple with other rigid or deformable structures by using penalty-based contact algorithms. The DE is highly parallelized and is capable of simulating systems containing over several hundred-million particles.

Here are some distinct features of the bond model:

1. The stiffness of the bond between particles is determined automatically from Young's modulus and Poisson's ratio.
2. The crack criteria are directly computed from the fracture energy release rate.
3. The behavior of bond particles is particle-size independent.

Incompressible CFD

The incompressible flow solver is based on state of the art finite element technology applied to fluid mechanics. It is fully coupled with the solid mechanics solver. This coupling permits robust FSI analysis via either an explicit technique when the FSI is weak, or using an implicit coupling when the FSI coupling is strong.

Electromagnetism

The solver calculates the Maxwell equations in the Eddy current (induction-diffusion) approximation. This is suitable for cases where the propagation of electromagnetic waves in the air (or vacuum) can be considered as instantaneous. Applications include magnetic metal forming, welding, and induced heating.

CESE/Compressible CFD

The CESE solver is a compressible flow solver based upon the Conservation Element/Solution Element (CE/SE) method, originally proposed by Dr. Chang in NASA Glenn Research Center. This method is a novel numerical framework for conservation laws.

http://investors.cray.com/phoenix.zhtml?c=98390&p=irol-newsArticle&ID=1947813&highlight=

Cray Awarded Contract to Install India's First Cray XC30 Supercomputer

SEATTLE, WA -- (Marketwired) -- 07/16/14 --

Global supercomputer leader Cray Inc. (NASDAQ: CRAY) today announced the Company has been awarded a contract to provide the Tata Institute for Fundamental Research (TIFR) in Mumbai with a Cray® XC30 supercomputer -- the first Cray XC30 system in India.

News Release

TIFR is a multi-disciplinary research and teaching institute, and is also a National Centre of the Government of India and a deemed university. Started in 1945 by the late Dr. Homi J. Bhabha, today TIFR carries out research in all frontline areas of fundamental sciences, such as mathematics, physics, chemistry, biology, computer science and scientific education. TIFR is the birthplace of numerous initiatives and institutions that are now engaged in applied sciences and technology throughout India.

The Cray XC30 system will be used by a nation-wide consortium of scientists called the Indian Lattice Gauge Theory Initiative (ILGTI). The group will research the properties of a phase of matter called the quark-gluon plasma, which existed when the universe was approximately a microsecond old. ILGTI also carries out research on exotic and heavy-flavor hadrons, which will be produced in hadron collider experiments. The Cray XC30 will be the first supercomputer located in ILGTI's new facility in Hyderabad.

"The researchers and scientists at TIFR are running highly-complex Lattice QCD workloads, and we are honored that India's first Cray XC30 supercomputer will power the Institute's important and challenging research," said Andrew Wyatt, Cray vice president, APMEA. "TIFR's work with theoretical physics and quantum chromodynamics is an ideal fit for the Cray XC30 system, which is designed to execute highly-advanced numerical computations with superior scalability, performance and reliability."

The Cray XC30 system to be installed at TIFR will feature the Intel® Xeon® E5-2600 v2 processors, formerly code named "Ivy Bridge," and NVIDIA® Tesla® K20X GPU accelerators. With a peak performance of more than 730 teraflops, the Cray XC30 system is expected to be delivered and installed at TIFR in 2014.

Previously code-named "Cascade," the Cray XC30 series of supercomputers is engineered to meet the performance challenges of today's most demanding high performance computing (HPC) users. Special features of the Cray XC30 and Cray XC30-AC™ supercomputers include: the Aries system interconnect; a Dragonfly network topology that frees applications from locality constraints; innovative cooling systems to lower customers' total cost of ownership; the next-generation of the scalable, high performance Cray Linux Environment supporting a wide range of applications; Cray's HPC optimized programming environment, and the ability to handle a wide variety of processor types.

Additional information on the Cray XC30 supercomputers can be found on the Cray website at www.cray.com.

Full information on Cray – Safe Harbor can be read at www.cray.com

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. 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 system required by TIFR when required and that meets TIFR's needs. 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 system required by TIFR is not delivered in a timely fashion or does not perform as expected and such other risks as identified in the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2014, 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.

Cray Media: - Nick Davis
206/701-2123 pr@cray.com
Cray Investors: Paul Hiemstra
206/701-2044 ir@cray.com

Source: Cray Inc.

Future Truck 2025

World premiere for the transport of the future

Mercedes-Benz presents the "Future Truck 2025" as the world's first autonomously driving truck.

A truck drives along a motorway all by itself, at a speed of 80 km/h, communicating with its surroundings and ensuring more safety on the roads. It also saves its operator money, and relieves its driver of stress and fatigue in monotonous traffic situations.

Sounds like science fiction? Think again, as it is already here today - the Future Truck 2025 from Mercedes-Benz. The Highway Pilot system enables this truck to drive autonomously at a speed of 80 kilometres per hour. With it we are presenting the long-distance truck of tomorrow, and giving an outlook on the transport system of the future. It is based on intelligent networking of all the safety systems already available, plus cameras, radar sensors and vehicle-to-vehicle communication.

There are many challenges facing the road transport sector: Despite increasing traffic density, investment in the infrastructure is in decline. Added to this are increasing cost pressure on transport operators and the already acute shortage of drivers. Daimler Trucks has an answer to all this – the truck of tomorrow: safer, more efficient, highly networked and autonomous.

Thanks to autonomous driving, the transport sector could look like this in only ten years: Traffic flows are smoother, more predictable and safer. Human error behind the wheel is avoided. Freight forwarders operate more profitably and flexibly. The professional profile of the truck driver has undergone a change – from a trucker to a transport manager with far more responsibilities.

https://www.youtube.com/watch?v=5u5WXd-kaSs

.

Do A Double Take with Second Stunning Toyota FT-1 Sports Car Concept

- Saddle Leather Interior Communicates Premium, Sporty Feel
- Superhero Inspiration in Performance Leather and Details
- Ultra High-Performance Race Version Coming Virtually to Gran Turismo® 6

TORRANCE, Calif. (Aug. 13, 2014) – Proof that its beauty lies on the inside and out, Toyota revealed today a second interior styling and exterior color for an upscale interpretation of its sensational FT-1 sports car concept. Developed by Calty Design Research in Newport Beach, California, the concept vehicle's graphite exterior paint and light, saddle-colored leather went on display for the first time at the Gordon McCall's Motorworks Revival gala held on California's Monterey Peninsula.

The original FT-1 concept ignited sports car enthusiasts and the automotive world with its January debut at the North American International Auto Show. Labeled the spiritual pace car for the new direction of Toyota Global Design, the muscular, curved exterior builds on Toyota's rich sports coupe heritage dating back to the 2000GT, Celica, Supra, MR2 and most recently Scion FR-S. That first vehicle stunned in a bold red, while this second FT-1 impresses with sophisticated graphite. Both share the deeply sculpted intakes and outlets that support its track-ready nature and the dramatic lines seemingly shaped by the wind. It's a look that gets the heart racing.

The color of the upscale leather changes between the first and second FT-1 vehicles, and the visual difference is striking. The first car was dominated by bold, masculine black that keeps the driver focused on the road, while red painted edges and raw metals provide intriguing accents. In the second, the natural leather on the seat is supple with an all-natural grain, giving it an authentic appeal. The painted edges that are red in the first concept are now subtly blended brown in the second. The intention is to bring in a more sophisticated feel and authenticity through color choice, showcasing the versatility of the FT-1 sports car concept. Enthusiasts who desire a more pure high-performance experience might choose the black-red pairing, while others may desire the premium, athletic feel of the saddle leather.

"From the start of the FT-1 project, we wanted the driver to have a feeling of flow while at the wheel – to be able to focus on the road and nothing else," said Sellene Lee, the Calty creative designer who proposed both color concepts. "In the color studio we help create the atmosphere of the vehicle, and our aim was to ensure everything supported the driver through efficient choices. The saddle leather maintains that same 'in the zone' driving intention, while bringing in a more premium feeling."

Superhero Inspiration for the Interior

Sellene Lee drew inspiration for the FT-1 interior from the modern, high-tech performance materials used for today's superhero costumes. A movie poster drew her attention to the modern shift from past heroes' bright tights and colors to today's performance fabrics and function. To achieve the FT-1's advanced-looking, intricately detailed interior, Sellene Lee and the team compared leather thicknesses, grain sizes and textures to find the perfect combination. Raised metal mesh provides ventilation for the seats while lending a more textural, bold effect that beautifully matches with the metal accents. A dimensional embossed pattern on the instrument panel leather brings in a 3-D, technical look.

"From color and trim standpoint in the FT-1, there was a laser-like focus on staying true to function," said Wendy Lee, studio chief designer at Calty. "This project was very special, as the FT-1 stands apart in its performance-driven, authentic purpose."

Beyond her superhero performance material concept, Sellene Lee moved away from the typical stitching or piping edge treatment found in many vehicle interiors. The painted red edges on the welded leather and painted brown edges on the second FT-1 were inspired by high-end leather bags she found in an upscale department store. When drivers sit in FT-1, they can feel the difference in materials, textures and color choices that resulted from the team's work.

Double the Fun in Gran Turismo 6

This September, two new versions of the FT-1 will be available for download virtually inside Gran Turismo 6 (GT6), the latest iteration of the best-selling racing franchise exclusively on PlayStation®3. Like the red FT-1 introduced in January, the graphite FT-1 concept roars onto the Gran Turismo 6 racetrack as a downloadable vehicle for a limited time. Additionally, in celebration of the 15th anniversary of the Gran Turismo series, Calty has also designed an ultra high-performance race version of the FT-1 that inside the game is called the FT-1 "Vision GT." This high-powered version interprets what a full-race FT-1 might achieve on the track. See how the FT-1 Vision GT came to life by watching this video: https://www.youtube.com/watch?v=uuXFyCHp59w

The GT6 played an important role in helping key executives (including Toyota President Akio Toyoda) better experience the FT-1 concept prior to building the vehicle. Both virtual versions capture the same excitement, passion and performance the physical FT-1 vehicles inspire in those who see them.

About Toyota: Toyota (NYSE:TM), the world's top automaker and creator of the Prius, is committed to building vehicles for the way people live through our Toyota, Lexus and Scion brands. Over the past 50 years, we've built more than 25 million cars and trucks in North America, where we operate 14 manufacturing plants and directly employ more than 40,000 people. Our 1,800 North American dealerships sold more than 2.5 million cars and trucks in 2013 – and about 80 percent of all Toyota vehicles sold over the past 20 years are still on the road today.

Toyota partners with philanthropic organizations across the country, with a focus on education, safety and the environment. As part of this commitment, we share the company's extensive know-how garnered from building great cars and trucks to help community organizations and other nonprofits expand their ability to do good. For more information about Toyota, visit www.toyotanewsroom.com.

About the Gran Turismo® Franchise: Gran Turismo® celebrates its 15th anniversary in 2013, having first appeared internationally in 1998. The multi-award-winning franchise has been the most successful ever for PlayStation®, and in 2013 it also surpassed worldwide sales of 70 million units. Various iterations of Gran Turismo have been created for PlayStation® , PlayStation®2 computer entertainment system, PlayStation®3 and PSP (PlayStation® Portable), and have always been regarded as the best and most authentic driving simulators ever created due to true-to-life graphics, authentic physics technology and design. Since the inception of Gran Turismo, famed creator Kazunori Yamauchi and Polyphony Digital Inc. in Japan have revolutionized the racing category as we know it today. His offerings provide the most realistic driving simulation in the industry and a unique medium for automotive manufacturers to showcase their products. Gran Turismo®5, the latest iteration of the game, was released in 2010 and has sold 10 million units worldwide. The latest entry into the franchise, Gran Turismo®6, released on December 6, 2013.

Paris, France – July 29, 2014 – ESI Group, pioneer and world-leading solution provider in Virtual Prototyping for manufacturing industries, announces the implementation of ESI's Virtual Reality solutions at AEROCAMPUS Aquitaine. Based in Bordeaux, Europe's biggest hub for the aerospace industry, AEROCAMPUS Aquitaine's facilities now include a Virtual Reality powerwall running IC.IDO, ESI's Virtual Reality solution.

AEROCAMPUS Aquitaine, Europe's leading aircraft maintenance training center, adopts IC.IDO for Virtual Reality

This initiative opens new perspectives to professional training, leveraging the latest virtualization technologies to provide an immersive experience, greater interactivity and team collaboration.

Thanks to newly installed facilities, AEROCAMPUS Aquitaine can now offer immersive and collaborative training sessions for aeronautic maintenance.

Created in 2011, AEROCAMPUS Aquitaine aims to be Europe's largest provider of higher education and professional training dedicated to aeronautic maintenance. The association is deeply rooted in the local economic environment and operates in partnership with the biggest aeronautic industrials in the region. 19 expert companies teamed up in 2012 to found the AEROCAMPUS Cluster, with the objective of keeping ahead of the industry's professional training needs for all aeronautic applications, ranging from maintenance and repairs to composites manufacturing, welding, advanced materials & coatings production and advanced assembly techniques.

In 2013, during the most recent Paris Air Show, AEROCAMPUS Aquitaine, engineering firm P3 ingénieurs, leading European immersive 3D firm Immersion, the Bordeaux aeronautic maintenance institute IMA, the Bordeaux Technowest technology center, and ESI France signed a consortium agreement committing them to build the first ever immersive Virtual Reality room entirely dedicated to training in France.

This Virtual Reality room is now fully operational at AEROCAMPUS Aquitaine and is used to train students and professional mechanics in aeronautic maintenance. The facilities include a Virtual Reality immersive system, with its powerwall, polarized 3D glasses and joystick.

With IC.IDO, trainees are now able to experiment with maintenance operations in an ultra-realistic immersive environment that provides real-scale and real-time interactions. They can work collaboratively, and benefit from distance learning as they connect to other Virtual Reality systems located at other sites. For example, pupils located in Toulouse may connect virtually with their fellow trainees in the new AEROCAMPUS Virtual Reality room. Using Virtual Prototypes, rather than the traditional real prototypes, the AEROCAMPUS Cluster will also be able to ensure that equipment data is current and takes into account the slightest change in aircraft parts or maintenance processes.

"Virtual Reality is a fantastic technology providing the most interactive teaching experience possible. Not only does this new technology make learning fun, IC.IDO also enables the experimentation of real-life physics and the realistic rehearsal of maintenance procedures, without having to provide costly aircraft parts. Virtual Reality is ideal to keep up with the latest training data as it offers a greater reactivity with respect to frequent changes in aeronautic parts or processes," comments Jérôme Verschave, Managing Director, AEROCAMPUS Aquitaine.

For more information about IC.IDO, please visit www.esi-group.com/ICIDO.

Connect with ESI on LinkedIn, Twitter, Facebook, and YouTube

ESI Group – Media Relations
Céline Gallerne
Celine.Gallerne@esi-group.com
T: +33 (0)1 41 73 58 46

XCAE Computer Aided Engineering

Fernando Prevedello
fernando@xcae.com.br
www.xcae.com.br

Address: Rua Alegre, 470, Conjunto 1103
City: São Caetano do Sul
State: São Paulo
Zip code: 09550-250

Software Distribution, Consulting, Training & Support

- LS-DYNA
- NX NASTRAN
- SOLID EDGE
- FEMAP
- midas NFX

http://awg.lstc.com

The LS-DYNA® Aerospace Working Group (A WG)

A partnership of federal agencies, corporations, and universities working together to develop and publish aerospace test cases and modeling guidelines for finite element analyses with LS-DYNA®.

Aerospace News
\

Japan's first stealth fighter prototype was rolled out at the Mitsubishi Heavy Industries Ltd. factory in Toyoyama, Aichi Prefecture, in May. (MoD photo)

Japan Throttles Up Work On Homegrown Fighter Jet (Source: Nikkei Asian Review; published August 21, 2014)

TOKYO --- Japan will begin test flights next year to determine whether the country has the right stuff to build a fighter jet without relying on Western contractors.

The Ministry of Defense plans to seek around 40 billion yen ($384 million) in funding for the effort for the fiscal year starting next April.

The government will decide by fiscal 2018 whether to proceed with the development of a purely Japanese fighter, according to its latest medium-term defense program.

Production of the F-2, a fighter jointly by Japan and the U.S., ended in fiscal 2011. The last of the jets are expected to be retired from the Japanese Air Self-Defense Force around fiscal 2028.

To gauge the feasibility of creating an indigenous fighter, the ministry's Technical Research & Development Institute began work on the Advanced Technology Demonstrator-X (ATD-X) four years ago. Researchers have made progress in a number of areas, including lightweight airframe designs and missile-firing mechanisms.

The ATD-X is slated for its first flight using stand-in engines next January. Testing of stealth airframe designs is to begin in April. Prototyping of the actual engines -- a joint effort by IHI, Mitsubishi Heavy and other defense contractors -- is to start as soon as fiscal 2015 and take about five years. Heat-resistant ceramics, an area in which Japan excels, will be employed for the turbine blades.

Creating a fighter jet of its own will prove fiscally as well as technically demanding for Japan. Initial costs are estimated at 500 billion yen to 800 billion yen, but test flights and the development of ancillary equipment will likely add significantly to the total.

Even if Japan takes a pass on the end result, the defense ministry reckons that possessing its own fighter technology will work to the country's advantage in joining multinational arms development programs and negotiating to buy other countries' fighter

International CAE Conference 2014

October 27-28, Pacengo del Garda (Verona),

Italy

Your opportunity to be part of the future!

The International CAE Conference is the main event in Italy and one of the most important ones in Europe regarding numerical simulation and its role in shaping the future of industrial R&D. It is a key platform for engineers, analysts, designers, IT managers, professors, researchers and students. Those who wish to share their knowledge and ideas or are interested in learning more about computer simulation tools and related technologies will benefit hugely from attending the 2-day program.

This year's Conference will take place in Pacengo del Garda (Verona), Northern Italy. The program will feature multiple parallel sessions on a variety of industrial verticals including: Aerospace & Defence, Automotive and Transportation, Naval, Oil&Gas and Energy, Processing and Production, Consumer goods, and more. The International CAE Conference is also an annual appointment for dedicated users' meetings on specific and emerging technologies.

Moreover, opinion leaders and experts will explore topics in Civil Engineering & Construction, Biomechanics and High Performance Computing. Several CAE-oriented complementary sessions and workshops will complete the diverse and exciting agenda.

In the frame of the International CAE Conference, the 3rd edition of the "Poster Award" will be presented. The Award honors the most outstanding and innovative research work by students and researchers in the year 2014.

For further information about the conference, to submit a presentation and/or become an exhibitor and sponsor, please contact : info@caeconference.com
Tel. +39 0461 979 474 **Stay tuned to: www.caeconference.com**

July

06 JSOL CD-adapco, Sign Collaborative Development Agreement
07 Women In Engineering Programs – Associations
08 BETA CAE Systems S.A ANSA & µETA v15.0.3
12 Mercedes-Benz rally driver Ewy Rosqvist
16 TESLA Motors Charging Milestone
17 LANCEMORE Co., - Plane Detonation Wave
18 Aerospace Working Group - KAI Selected as LCH/LAH Developer
20 DatapointLabs Attended Event Review

June

06 Mercedes-Benz - IEEE Robotics and Automation Award
08 FORD China - Sales Update
10 Royal Navy - New Wildcat
12 Chevrolet - Camaro that converts into the iconic Bumblebee
15 CAE Associates - Nicholas M. Veikos
18 LSTC - Training Classes
19 - LANCEMORE Co., - Walking Beam Furnace

May

06 MIPS Helmets – New Generation
09 JSOL - HYCRASH
10 Comet Solutions, Inc - Automotive Focus
12 BETA CAE Systems S.A. ANSA & µETA v14.2.
14 LSTC - DES Discrete Element Sphere
15 Cray - Cray to Install Tiered Adaptive Storage Solution at the North German Supercomputing Alliance (HLRN)
17 MSC Software - The Jury Has Spoken
18 Penguin - POD (Penguin Computing on Demand
19 AEROSPACE X-29 research aircraft

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-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

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 www.cray.com

Cray CS300-AC Cluster Supercomputer

§ The Cray CS300-AC cluster supercomputer features an air-cooled architecture based on blade server or rackmount server building block platforms. The system is built for capacity and data-intensive workloads. It delivers turnkey high performance computing with a broad range of flexible system configuration options.

§ The CS300-AC system features two new preconfigured ready-to-go solutions, the CS300 shared memory parallel and the CS300 large memory systems.

Cray CS300-LC Cluster Supercomputer

§ The Cray CS300-LC cluster solution features a direct liquid-cooled architecture using warm water heat exchangers instead of chillers. It delivers a turnkey, energy-efficient solution that reduces datacenter power and cooling operation costs for faster ROI while addressing capacity and data-intensive workloads.

Cray XC30 Supercomputer Series

§ The Cray XC30 family delivers on Cray's commitment to an adaptive supercomputing architecture that provides both extreme scalability and sustained performance. The flexibility of the Cray XC30 platform ensures that users can configure the exact machine to meet their specific requirements today, and also remain confident they can upgrade and enhance their system to address the demands of the future.

Cray Sonexion Scale-out Lustre Storage System

§ Brought to you by Cray, the world's leading experts in parallel storage solutions for HPC and the technical enterprise, the Cray Sonexion is a fully integrated, modular and compact scale-out storage system for Lustre.

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.

ETA – Engineering Technology Associates **www.eta.com**
etainfo@eta.com

Inventium Suite™

Inventium Suite™ 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 post-processing 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 www.esi-group.com

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.

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.

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

HYCRASH

Easy-to-use one step solver, for Stamping-Crash Coupled 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 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.

Shanghai Hengstar www.hengstar.com

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.

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.

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.

Canada	**Metal Forming Analysis Corp MFAC** galb@mfac.com www.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.** info@caeai.com www.caeai.com			
	ANSYS Products	CivilFem	Consulting ANSYS Consulting LS-DYNA	
United States	**DYNAMAX** sales@dynamax-inc.com www.dynamax-inc.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models		LSTC Barrier Models	

United States	**ESI-Group N.A** www.esi-group.com			
	QuikCAST	SYSWELD	PAM-RTM	PAM-CEM
	VA One	CFD-ACE+	ProCAST	Visual-Process
	VisualDSS	Weld Planner	Visual-Environment	IC.IDO
United States	**Engineering Technology Associates – ETA** www.eta.com		etainfo@eta.com	
	INVENTIUM/PreSy	NISA	VPG	LS-DYNA
	LS-OPT	DYNAform		
United States	**Gompute** www.gompute.com		info@gompute.com	
	LS-DYNA Cloud Service		Additional software	
	Additional Services			
United States	**Comet Solutions** Comet Software		steve.brown@cometsolutions.com	

United States	**Livermore Software Technology Corp**		sales@lstc.com	
	LSTC www.lstc.com			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	

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

France	**DynaS+**		v.lapoujade@dynasplus.com	
	www.dynasplus.com		Oasys Suite	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	DYNAFORM	VPG	MEDINA	
	LSTC Dummy Models		LSTC Barrier Models	

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

Germany	**DYNAmore GmbH**		uli.franz@dynamore.de	
	www.dynamore.de			
	PRIMER	LS-DYNA	FTSS	VisualDoc
	LS-OPT	LS-PrePost	LS-TaSC	DYNAFORM
	Primer	FEMZIP	GENESIS	Oasys Suite
	TOYOTA THUMS		LSTC Dummy & Barrier Models	

The Netherlands	**Infinite Simulation Systems B.V**		j.mathijssen@infinite.nl	
	www.infinite.nl			
	ANSYS Products	CivilFem	CFX	Fluent
	LS-DYNA	LS-PrePost	LS-OPT	LS-TaSC

Italy	**EnginSoft SpA**		info@enginsoft.it	
	www.enginsoft.it			
	ANSYS	MAGMA	Flowmaster	FORGE
	CADfix	LS-DYNA	Dynaform	Sculptor
	ESAComp	AnyBody	FTI Software	
	AdvantEdge	Straus7	LMS Virtual.Lab	ModeFRONTIER
Russia	**STRELA**		info@dynarussia.com	
	LS-DYNA	LS-TaSC	LS-OPT	LS-PrePost
	LSTC Dummy Models		LSTC Barrier Models	
Sweden	**DYNAmore Nordic**		marcus.redhe@dynamore.se	
	www.dynamore.se		Oasys Suite	
	ANSA	µETA	LS-DYNA	LS-OPT
	LS-PrePost	LS-TaSC	FastFORM	DYNAform
	FormingSuite		LSTC Dummy Models	
			LSTC Barrier Models	
Sweden	**GOMPUTE**		info@gridcore.com	
	www.gridcore.se		www.gompute.com	
	LS-DYNA Cloud Service		Additional software	

Switzerland	**DYNAmoreSwiss GmbH**		info@dynamore.ch	
	www.dynamore.ch			
	LS-DYNA		LS-OPT	LS-PrePost
	LS-TaSC		LSTC Dummy Models	
			LSTC Barrier Models	

UK	**Ove Arup & Partners**		dyna.sales@arup.com	
	www.oasys-software.com/dyna		TOYOTA THUMS	
	LS-DYNA		LS-OPT	LS-PrePost
	LS-TaSC	PRIMER	D3PLOT	T/HIS
	REPORTER	SHELL	FEMZIP	HYCRASH
	DIGIMAT	Simpleware	LSTC Dummy Models	
			LSTC Barrier Models	

Australia	**LEAP**			
	www.leapaust.com.au			
	ANSYS Mechanical	ANSYS CFD	ANSYS EKM	Recurdyn
	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/dyna			
	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 Technology**		info@hengstar.com	
	www.hengstar.com			
	LS-DYNA	LS-TaSC	LSTC Barrier Models	
	LS-DYNA Courses	LS-OPT	LSTC Dummy Models	LS-PrePost

India	**Oasys Ltd. India**		lavendra.singh@arup.com	
	www.oasys-software.com/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 Pvt. Ltd**		support@kaizenat.com	
	http://kaizenat.com /			
	LS-DYNA	LS-OPT	LSTC Dummy Models	LS-PrePost
	Complete LS-DYNA suite of products		LSTC Barrier Models	LS-TaSC

Distribution & Consulting	Asia Pacific	Distribution & Consulting

Japan	**CTC**	LS-dyna@ctc-g.co.jp		
	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		Oasys Suite	
	JSTAMP	HYCRASH	JMAG	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	TOYOTA THUMS	
Japan	**FUJITSU**			
	http://jp.fujitsu.com/solutions/hpc/app/lsdyna			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	CLOUD Services	
Japan	**LANCEMORE**	info@lancemore.jp		
	www.lancemore.jp/index_en.html			
	Consulting			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models		
Japan	**Terrabyte**	**English:**		
	www.terrabyte.co.jp	www.terrabyte.co.jp/english/index.htm		
	Consulting			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	AnyBody	

Korea	**THEME**	wschung@kornet.com		
	www.lsdyna.co.kr		Oasys Suite	
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	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.kr		
	www.kostech.co.kr			
	LS-DYNA	LS-OPT	LS-PrePost	LS-TaSC
	LSTC Dummy Models	LSTC Barrier Models	eta/VPG	FCM
	eta/DYNAFORM	DIGIMAT	Simuform	Simpack
	AxStream	TrueGrid	FEMZIP	

Taiwan	**Flotrend**	gary@flotrend.tw		
	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

Gompute

www.gompute.com

Penguin Computing

www.penguincomputing.com/services/hpc-cloud

Training Classes Germany CADFEM GmbH Training Classes

The Complete Courses Offered Can Be Found At: www.cadfem.de

Training Classes Germany DYNAmore Training Classes

The Complete Courses Offered Can Be Found At: www.dynamore.de/en

Training Classes United States LSTC Training Classes

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

Training Classes Sweden DYNAmore Nordic Training Classes

The Complete Courses Offered Can Be Found At: www.dynamore.se

Training Classes France DynAS+ Training Classes

The complete Training Courses offered can be found at www.dynasplus.com

Training Classes	Thailand	Training Classes

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

Training Classes	United States ETA	Training Classes

The Complete Courses Offered Can Be Found At: www.eta.com etainfo@eta.com

Training Classes	United States CAE Associates	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	UK ARUP	Training Classes

For course location visit www.oasys-software.com/dyna/en/training

 **FACEBOOK**

BETA CAE SYSTEMS SA CADFEM Cray Inc.

ESI Group

 **TWITTER**

BETA CAE SYSTEMS SA Cray Inc. ESI Group

ETA CADFEM

 **LINKEDIN**

BETA CAE SYSTEMS SA CADFEM Cray Inc.

DYNAmore Nordic ETA Oasys

 **YOUTUBE**

BETA CAE SYSTEMS SA CADFEM Cray Inc.

ESI Group ETA Lancemore

 **NEWS FEEDS** ETA:

HPC on-demand for academic users

Run your LS-DYNA simulations and pay for what you use on a turn-key environment

- For LSTC academic customers.
- Run your simulations from 0.05 €/CCH without reservation
- 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: www.gompute.com

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.

POD (Penguin Computing on Demand) offers software including LSTC's LS-DYNA

www.penguincomputing.com/services/hpc-cloud

Penguin HPC clusters are optimized for engineering workloads and offer:

- Instant access to an HPC Cloud Cluster
- High performance InfiniBand bare-metal compute
- Free support from HPC experts
- No charges for network transfers
- Cost-effective, pay-per-use billing model
- Secure environment for private data
- Detailed billing reports for user groups and projects

Self Registration Portal – featuring rich--documentation, wiki, FAQ, pricing and more.

https://pod.penguincomputing.com/

POD Software Applications and Libraries (visit site for complete listing)

FEA, CFD and FDTD Modeling

- **LS-DYNA** / LS-PrePost LS-DYNA is an advanced general-purpose multiphysics simulation software package. Its core-competency lie in highly nonlinear transient dynamic finite element analysis (FEA) using explicit time integration. LS-PrePost is an advanced pre and post-processor that is delivered free with LS-DYNA.
- **OpenFoam:** OpenFOAM (Open source Field Operation And Manipulation) is a C++ toolbox for the development of customized numerical solvers, and pre-/post-processing utilities for the solution of continuum mechanics problems, including computational fluid dynamics (CFD).
- **ANSYS HFSS:** ANSYS HFSS software is the industry standard for simulating 3-D full-wave electromagnetic fields. Its gold-standard accuracy, advanced solver and compute technology have made it an essential tool for engineers designing high-frequency and high-speed electronic components.
- **ANSYS Fluent** ANSYS Fluent software contains the broad physical modeling capabilities needed to model flow, turbulence, heat transfer, and reactions for industrial applications.
- **Star-CD** and **Star-CCM+:** STAR-CCM+ is CD-adapco´s newest CFD software product. It uses the well established CFD solver technologies available in STAR-CD, and it employs a new client-server architecture and object oriented user interface to provide a highly integrated and powerful CFD analysis environment to users.
- **Convergent:** CONVERGE is a Computational Fluid Dynamics (CFD) code that completely eliminates the user time needed to generate a mesh through an innovative run-time mesh generation technique.
- **Lumerical:** Simulation tools that implement FDTD algorithms.

For the complete list of ATD Models developed and/or offered by DYNAmore visit
http://www.dynamore.de/en/products/models/side

PDB WorldSID-50

DYNAmore has developed a model of the WorldSID 50%. The model is validated with material, component and sled tests. The model was developed with a consortium of the German OEMs (PDB: Audi, BMW, Daimler, Porsche, and VW). The methods applied are the same as in the previous projects with the FAT for the ES-2, ES-2re, USSID, and BIORID model. The table below provides some general information about the release 2.0.1 of the WorldSID 50th percentile male model:

FTSS SID-IIs Model

The dummy represents a small female body and is used in an IIHS side impact load case, in the FMVSS214 and the US-NCAP load cases. The table below provides some general information about the release 3.1a of the SID-IIs model. A version for Build Level C (BLC) and Level D (BLD) is available.

FAT EuroSID Model

The dummy is used in the legal authorization in South Korea, Australia, China and India. The table below provides some general information about the actual release 3.6 of the model.

FAT US-SID and SIDHIII Model

FAT ES-2 and ES-2re Dummy Model

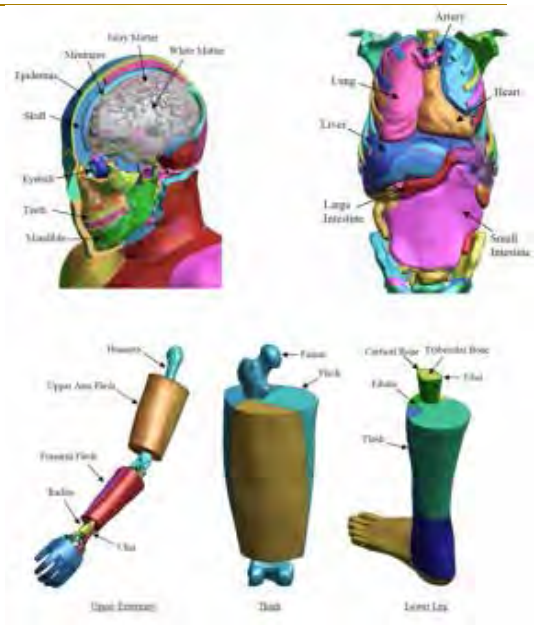
The dummy is used in US-NCAP- and Euro-NCAP side impact assessment, the ES-2re will be used in the new FMVSS214. The dummy is also used for the legal authorization in Europe, Japan and the United States. The table below provides some general information about the release v5.01 of FAT ES-2 model. The version v5.01 of the ES-2re, a variation of the ES-2 for the authorization and the evaluation in the United States, is also available with a comparable number of entities.

The latest model of the FAT US-SID is version v5.0. The dummy is used in the subsiding FMVSS214 regulation and in the SINCAP load case. The modified version, the SIDHIII v5.1 is used in lateral impact to a pole. For both dummies a detailed model is available. The table below provides some general information about the actual multiple validated model of the US-SID.

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.

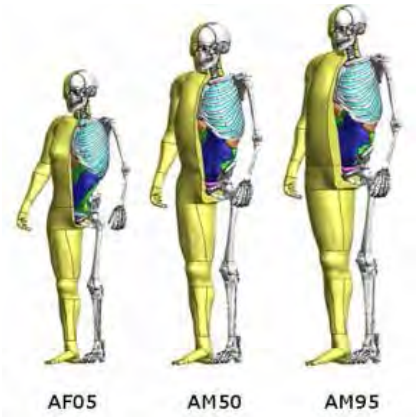


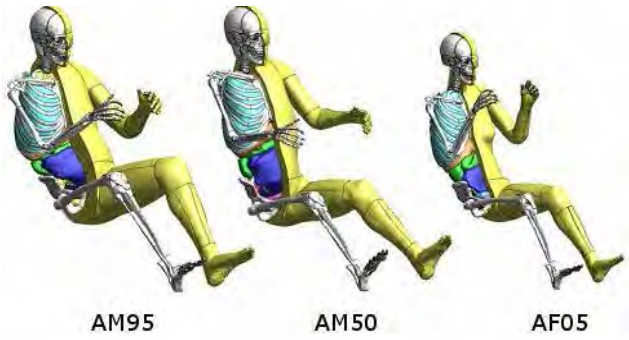
THUMS is limited to civilian use and may under no circumstances be used in military applications.

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 THUMS@lstc.com .





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

On Line Training is Owned and Operated by Dr. Al Tabiei

Dr. Al Tabiei has been a consultant on the use of LS-DYNA for more than 20 years to more than 60 companies.

Continuing to teach courses for LSTC in MI and CA, Dr. Tabiei has opened his own LS-DYNA On Line Training, for engineers, students, and consultants that can't find the time to travel to the CA or MI locations. Additionally, he will travel to companies, setting up specific training solutions on site.

Visit to view on line tutorials - www.lsdyna-online.com/tutorial-movies.html

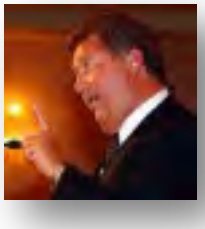
Tutorial Movies & Notes Can Be Purchased

- User Defined Material Tutorial Movie
- LSPREPOST Meshing Tutorial Movie #1
- Running LSDYNA Tutorial Movie #2
- LSPREPOST Postprocessing Tutorial Movie #3
- Fluid Structure Interaction Tutorial
- Composites Fiber Direction Tutorial
- Implicit LS-DYNA Tutorial
- Shell Elements in LS-DYNA Tutorial
- Contact in LS-DYNA Tutorial

Len Schwer

Paul Du Bois and Len Schwer have combined their more than 50 years of experience in non-linear numerical analysis, consulting and training to provide in-depth instruction on several advanced LS-DYNA topics. Their unique team training approach provides an increased depth and breadth of topical knowledge, plus differing viewpoints on methods and motivation.

http://www.duboisschwertraining.com/future



A registration form with the class price list is available on our web page.

http://www.duboisschwertraining.com/classes/Registration%20Details%20Troy%20MI

Schedule of Classes

ALYOTECH, Antony, France

29-30 Sept. 2014 - Methods & Modeling Techniques:
Prerequsite for Blast & Penetration
1-2 October 2014 - Concrete and Geomaterial Modeling (*Len*)
1-2 October 2014 - Polymer Modeling (*Paul*)
3 October 2014 - User Developed Material Models (*Paul*)
Contact: Stéphanie DUTREILLY

DYNAmore, Stuttgart, Germany

9-10 October 2014 - Concrete and Geomaterial Modeling (*Len*)
13-14 October 2014 - Blast Modeling with LS-DYNA
15-16 October 2014 - Penetration Modeling with LS-DYNA
17 October 2014 - Explosives Modeling for Engineers
Contact: Nils Karajan

ARUP, Solihull, United Kingdom

20-21 October 2014 - Concrete and Geomaterial Modeling (*Len*)
20-21 October 2014 - Polymer Modeling (*Paul*)
22 October 2014 - Explosives Modeling for Engineers
Contact: Katherine Groves

Call for Papers

LS-DYNA Forum 2014

6 – 8 October 2014, Bamberg, Germany

www.dynamore.de/forum2014-e

DYNAmore invites you to attend 13th LS-DYNA Forum which will take place from 6 - 8 October in Bamberg, Germany. This year, the conference is extended by half a day with the successful Developer Forum, which will take place before the main two-day User Forum.

You are warmly welcome to participate at the event as well as to actively contribute to the conference agenda by submitting an abstract. In your presentation you may report about your experience with LS-DYNA or LS-OPT as well as exchange your knowledge and discuss your problems with other users.

Additionally, there will be selected keynote lectures of renowned speakers from industry and universities. Software developers from LSTC and DYNAmore will present the latest features in LS-DYNA and the associated new application possibilities. In the accompanying exhibition, numerous hardware and software manufacturers will offer an insight into the latest news and trends around LS-DYNA.

Moreover, we are pleased to offer you several English spoken seminars in the week before, during and after the Forum, which will be either held by LS-DYNA developers or experienced consulting engineers

Presentation topics are:
Crashworthiness, passenger and pedestrian safety, metal forming, optimization and robustness, materials (composites, polymers, ...), joining techniques, implicit, impact, droptest, ballistics and penetration, fluid-structure interaction, computational fluid dynamics (CFD), heat transfer, electromagnetics, multiphysics, manufacturing processes, CAE process integration,…

from the industry areas:

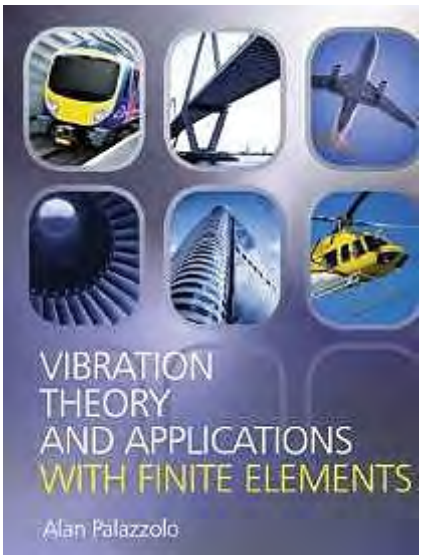
- automotive,
- aerospace,
- mechanical engineering,
- shipbuilding/offshore,
- transportation,
- biomechanics,
- civil engineering,
- medical engineering,
- packaging, ...

Seminars

We offer pre and post conference seminars in English language on:

- Meshless Methods in LS-DYNA - EFG
- Meshless Methods in LS-DYNA - SPH
- NVH & Frequency Domain Analysis
- ALE und Fluid-Structure Interaction
- Concrete and Geomaterial Modeling
- Blast Modeling with LS-DYNA
- Penetration with LS-DYNA
- Explosives Modeling for Engineers

We hope that we have stimulated your interest and are looking forward to receiving your abstract and to seeing you in Bamberg.



Vibration Theory And Applications with Finite Elements

Alan Palazzolo

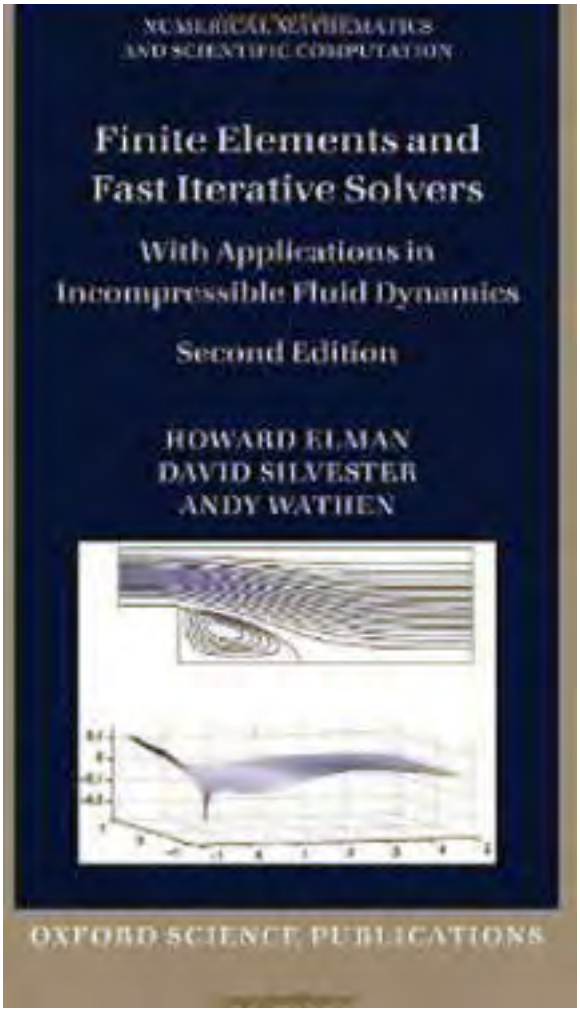
Hardcover: 625 pages Publisher: Wiley; 1 edition (Augt 25, 2014)
Language: English ISBN-10: 1118350804
ISBN-13: 978-1118350805

A comprehensive and practical guide to vibration theory with particular emphasis on finite element modeling using real world engineering scenarios

Vibration Theory and Applications with Finite Element Analysis provides extensive coverage of vibration-related topics, with particular emphasis on the three basic areas of modeling, analysis and applications. The author recognizes that a thorough understanding of mathematical and modeling techniques is essential before progressing to methods of analysis and there is a complete section covering the relevant math and programming techniques in MATLAB and MAPLE. By using a wide range of practical examples and exercises, the author demonstrates how the math relates to engineering and its applications, connecting theory to engineering practice and problem solving. Based on many years of research and teaching, this book brings together all the important topics in vibration theory, including failure models, kinematics and modeling, unstable vibrating systems, rotor dynamics and finite element methods utilizing truss, beam, plate and solid elements. It also explores in detail active vibration control, instability, bifurcation theory and paths to chaos. The book provides the modeling skills and knowledge required for modern engineering practice, plus the tools needed to identify, formulate and solve engineering problems effectively.

•Presents a thorough description of vibration topics and mathematical techniques from basic through to advanced levels
•Uses practical examples to illustrate the theory, providing an awareness of the concepts and how they apply to real life engineering situations
•Covers in detail topics such as 3D beams and solid elements and trusses, magnetic theory for active control and magnetic bearings and high cycle fatigue, based on the author's extensive research
•Includes techniques for deriving equations of motion via Newton's Laws, Lagrange, and Gibbs/Ansell approach
•Fully illustrated throughout, with a solution manual including MATLAB and MAPLE codes

An invaluable resource for graduate students of civil, mechanical and aerospace engineering; applied mathematics.



Finite Element and Fast Iterative Solvers

Finite Elements and Fast Iterative Solvers: with Applications in Incompressible Fluid Dynamics (Numerical Mathematics and Scientific Computation) Paperback – August 5, 2014

by Howard Elman (Author), David Silvester (Author),

Review: Review from previous edition ...an excellent introduction to finite elements, iterative linear solvers and scientific computing for graduates in engineering, numerical analysis, applied mathematics and interdisciplinary scientific computing. Adrian Carabineanu, Zentralblatt Math, Vol 1083 The text offers a valuable contribution to all finite element researchers who would like to broaden both their fundamental and applied knowledge of the field. Journal of Fluid Mechanics

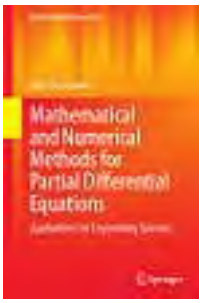
About the Author:

Howard Elman, Professor of Computer Science, University of Maryland at College Park

Howard Elman is a Professor in the Computer Science Department and the Institute for Advanced Computer Studies at the University of Maryland, College Park.

David Silvester is a Professor in the School of Mathematics at The University of Manchester

Andy Wathen is Reader in Numerical Analysis at the Oxford University Mathematical Institute, UK and a Fellow at New College



Mathematical and Numerical Methods for Partial Differential Equations: Applications for Engineering Sciences (Mathematical Engineering)
[Kindle Edition]
Joël Chaskalovic (Author)

Publication Date: May 16, 2014

This self-tutorial offers a concise yet thorough introduction into the mathematical analysis of approximation methods for partial differential equation. A particular emphasis is put on finite element methods. The unique approach first summarizes and outlines the finite-element mathematics in general and then in the second and major part, formulates problem examples that clearly demonstrate the techniques of functional analysis via numerous and diverse exercises. The solutions of the problems are given directly afterwards. Using this approach, the author motivates and encourages the reader to actively acquire the knowledge of finite- element methods instead of passively absorbing the material as in most standard textbooks. This English edition is based on the Finite Element Methods for Engineering Sciences by Joel Chaskalovic.

AUTHORS
Olek C Zienkiewicz (Author), Robert L Taylor (Author), J.Z. Zhu J.Z. Zhu (Author)

The Finite Element Method for Fluid Dynamics, Seventh Edition

Book Description
Publication Date: November 28, 2013 | ISBN-10: 1856176355 | ISBN-13: 978-1856176354 | Edition: 7

The seventh edition of these seminal books delivers the most up to date and comprehensive reference yet on the finite element method for engineers and mathematicians. Renowned for their scope, range and authority, the new editions have been significantly revised and developed. Each book is now complete in its own right and provides self-contained reference, while together they provide a formidable resource covering the theory and the application of the universally used FEM.

* World leading author team of the highest stature, drawn from the academic, research and software applications communities
* A proven standard in the library of any engineer concerned with finite elements
* Significant changes include a clearer presentation of the development of the finite element fundamentals and six major new chapters

The Finite Element Method for Solid and Structural Mechanics, Seventh Edition

Book Description
Publication Date: November 7, 2013 | ISBN-10: 1856176347 | ISBN-13: 978-1856176347 | Edition: 7
The Finite Element Method for Solid and Structural Mechanics is the key text and reference for engineers, researchers and senior students dealing with the analysis and modeling of structures, from large civil engineering projects such as dams to aircraft structures and small engineered components.

The Finite Element Method: Its Basis and Fundamentals, Seventh Edition

Book Description
Publication Date: September 5, 2013 | ISBN-10: 1856176339 | ISBN-13: 978-1856176330 | Edition: 7
The Finite Element Method: Its Basis and Fundamentals offers a complete introduction to the basis of the finite element method, covering fundamental theory and worked examples in the detail required for readers to apply the knowledge to their own engineering problems and understand more advanced applications.

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 The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering)	*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*

Jianming Jin (Author) - The Finite Element Method in Electromagnetics

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

Finite Elements in Fracture Mechanics **Prof. Dr. Meinhard Kuna**		**CAE design and sheet metal forming…** **Li Fei Zhou Deng**	**Applied Metal Forming**

Micro Metal Forming (Lecture Notes in Production Engineering)	**The Finite Element Method: Theory, Implementation, and Applications (Texts in Computational Science and Engineering) [Hardcover]**	

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**
Fundamentals of Earthquake Engineering **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 steel reinforced concrete slab subjected to blast and pressure loadings in LS-DYNA. **Vivek Reddy**	Formulas for Mechanical and Structural Shock and Impact **Gregory Szuladziniski**

The Finite Element Method **Thomas J. R. Hughes**	Computational Fluid Dynamics **T. J. Chung**	

Products On Amazon

[Tablets]

[Solid-State Drives]