



- Yes, I will attend the **Automotive CAE Grand Challenge 2012** on April 3+4, 2012. The registration fee is **EUR 600,-** (until March 06, 2012, thereafter EUR 700,-). In addition, I will attend the Seminar:
- Material Models of Composites** on April 2, 2012
 - Material Models of Short-Fibre Reinforced Plastics** on April 5, 2012
- The registration fee for each Seminar is **EUR 690,-** (until March 06, 2012, thereafter EUR 790,-). For booking the Grand Challenge + 1 Seminar a **EUR 100 discount** and for booking the Grand Challenge + 2 Seminars a **EUR 200 discount** is deducted from the total fees.

I accept the terms & conditions of carhs.training gmbh.

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The automotive CAE Grand Challenge 2012 - The event in automotive CAE you should not miss:

- ▶ **Learn all about the current challenges of automotive CAE**
- ▶ **The only CAE conference for which the conference topics are determined by a survey among the stakeholders of automotive CAE**
- ▶ **Hear all about the efforts in research and software development to overcome the challenges of automotive CAE**
- ▶ **Meet and exchange with researchers, software developers and industrial users of automotive CAE during the conference, in the exhibition and at the evening reception**

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Pre- and Post Conference Seminars
To make it even more attractive for potential visitors from abroad to come to the automotive CAE Grand Challenge 2012 we offer two technical seminars the week of the conference (learn more at www.carhs.de):

April 2, 2012

April 5, 2012

The Expert Dialog

In the last 20 years computer simulation has become an indispensable tool in automotive development. Tremendous progress in software and computer technology make it possible today to access product and process performance before physical prototypes have been built. Applications of computer simulation cover nearly all aspects of product and process design from crashworthiness to manufacturability.

Challenges in Virtual Vehicle Development

Despite of significant progress in simulation technology and impressive results in industrial application there remain a number of problems (challenges) which prevent the move to a "100% digital prototyping".

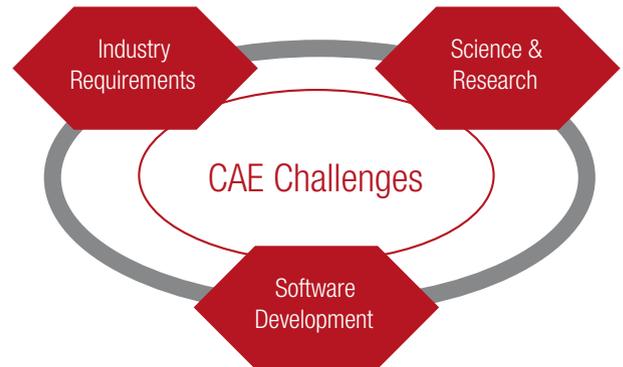
The Grand Challenge as a Platform for Dialog

The automotive CAE Grand Challenge stimulates the dialog between users, scientists and software developers in order to promote the solution of these challenges. Annually the most important (grand) challenges are being identified through a survey among simulation experts of the automotive industry.

The CAE Challenges identified in 2012 are:

- ▶ **Crash: Material- and Failure Models for Composites**
- ▶ **Safety: Stability and Robustness of FE Dummy Models**
- ▶ **Durability: Hypotheses for Damage Accumulation**
- ▶ **NVH: Vibration Comfort**
- ▶ **CAE General: Robust Design**
- ▶ **CAE General: Simulation Data Management**

In the conference one session will be dedicated to each "Grand Challenge". In each session a simulation expert from the automotive industry will first explain the importance of the individual challenge. Next a researcher will explain the state of research on the subject. This will be followed by presentations from the software companies involved in the discipline on their efforts to solve the individual challenge.



FINAL PROGRAM & REGISTRATION

Congress Park Hanau, Germany
April 03 + 04, 2012

Register now at www.carhs.de/grand-challenge

Terms & Conditions
VAT will be added to the registration fee if applicable. The conference fee includes detailed conference proceedings, lunches, refreshments and the evening reception. The registration fee is due 10 days after invoicing. Free cancellation is possible until March 06, 2012. Participants who cancel between March 07, 2012 and March 21, 2012 are liable for 50% of the registration fee. Participants who cancel after March 21, 2012, or who do not attend, are liable for the entire registration fee. The number of participants is limited. carhs.training gmbh reserves the right to vary or cancel the event in the light of bookings and to vary the duration and content without prior notice. In the event of cancellation, carhs.training gmbh will refund all monies paid to carhs.training gmbh with respect to the event. The program is subject to change without notice.
Universities and public research institutes receive a 40% discount on the registration fees.

This event is organized by carhs.training gmbh
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Congress Venue:
Congress Park Hanau
Schlossplatz 1
63450 Hanau, GERMANY
www.cph-hanau.de

CAE General: Simulation Data Management along the Development Process

Plenary Session 9:00 - 13:00 - Brueder Grimm Saal

Industry Requirements

- ▶ Audi AG - Dr. Karl Gruber
CAE Data Management - Current and Future Challenges

Research State of Art

- ▶ Fraunhofer SCAI - Clemens-August Thole, Rodrigo Iza-Teran
From Simulation Data Management to Collaborative, Distributed, Interactive Simulation Data Analytics

Software Solutions

- ▶ Beta-CAE - Dr. Stelios Seitanis, G. Margellou
Using SPDRM to Orchestrate all Actors Involved in CAE
- ▶ DYNAmore GmbH - Dr. Heiner Muellerschoen, Marko Thiele
Software for Simulation Data and Process Management in Industrial Automotive Application
- ▶ GNS Gesellschaft für numerische Simulation mbH - Claudius Schoene
Evaluation and Presentation of Large Numbers of Simulation Results from a SDM System

- ▶ PDTec AG - Dr. Guenter Staub
A Smart SDM-Solution for Small and Medium Sized Automotive Suppliers

- ▶ T-Systems - Christer Neimoeck, Witali Weber, Hans-Juergen Obramski
Efficient Variant Management with MEDINA/SDM

Young Scientist

- ▶ University of Applied Sciences Aachen - Anuja Nagle, Prof. Dr.-Ing. Dieter Weichert, Imperia GmbH - Prof. Dr.-Ing. Thilo Röth
„Intelligent Car Body“ – A Design Approach for Construction of a Virtual Car Body for Small Sized Vehicle Batch Production



▶ Dr. Karl Gruber
Audi AG
Dr. Karl Gruber is responsible for the coordination of the CAE-methods like Finite Element Methods, Multi Body Systems, Computational Fluid Dynamics, optimization etc. within the technical development of Audi. Additionally to the CAE-hardware and software conception the CAE data management and co-simulation play an important role.



▶ Franz Rupprechter
MAGNA STEYR Fahrzeugtechnik AG & Co KG
Franz Rupprechter has been working in the field of structural durability (stiffness, strength, fatigue life, optimization, etc.) since 1991, as an engineer and as team leader for method and software development (software FEMSITE). Since 2003 he is Head of the Department Structural Durability at MAGNA STEYR Fahrzeugtechnik.

Safety: Stability and Robustness of FE Dummy Models

Parallel Session 14:30 - 17:30 - Brueder Grimm Saal

Industry Requirements

- ▶ Jaguar Land Rover - Richard Brown
Variability in Dummy Models

Research - State of the Art

- ▶ PDB - Dr. Christian Gehre
Trends and Pitfalls of Dummy Model Developments

Software Solutions

- ▶ Altair Engineering GmbH- Marian Bulla, Franck Njilie
Robustness and Stability of RADIOSS Dummies and Barriers
- ▶ Beta-CAE - Lambros Rorris, Athanasios Lioras, Athanasios Fokylidis
Robustness Analysis of Safety Simulations
- ▶ Humanetics Innovative Solutions- Robert Kant, Karl Koschdon
Challenges for a Dummy Manufacturer

● Round Table Discussion

Durability: Hypotheses for Damage Accumulation

Parallel Session 14:30 - 17:30 - Conference Room 1-4

Industry Requirements

- ▶ MAGNA STEYR Fahrzeugtechnik AG & Co. KG - Franz Rupprechter
Fatigue Life Estimation – Needs for Virtual Development in Automotive Industry

Research - State of the Art

- ▶ Munich University of Applied Sciences - Prof. Dr.-Ing. Klemens Rother
Damage Accumulation – Overview about Attempts to Solve this Issue

Software Solutions

- ▶ e-Xstream engineering - Jan Seyfahrt, Roger A. Assaker
Fatigue of Composites: Moving Towards the Lifetime Prediction for Injection Molded Plastic Parts
- ▶ LMS Deutschland GmbH - Dr. Michael Hack
The Prandl Damage Operator – Application in Thermal Fatigue – Outlook for Composites
- ▶ Magna Powertrain ECS GmbH & Co. KG - Helmut Dannbauer
New Methods for Fatigue Life Prediction of Brittle and Ductile Materials

● Round Table Discussion

Evening Reception and Dinner

19:00 - Congress Park Hanau

Enjoy an evening of networking & entertainment with local and international specialities.

Crash: Material- and Failure Models for Composites

Parallel Session 9:00 - 12:15 - Brueder Grimm Saal

Industry Requirements

- ▶ Automobili Lamborghini SpA - Karsten Schuffenhauer
Crash-Simulation During the Development of the Lamborghini Aventador LP700-4

Research - State of the Art

- ▶ ViF The virtual Vehicle - Dr. Thomas Karall
Simulation of Composites in Crash

Software Solutions

- ▶ Altair Engineering GmbH - Dr. Christian Alscher, Dario Mendolicchio
Latest developments to model Composites including rupture in RADIOSS
- ▶ DYNAmore GmbH - Dr. Stefan Hartmann, Dr. André Haufe, Dr. Thomas Muenz
Current Activities in Composites Modeling with LS-DYNA
- ▶ ESI GmbH - Prof. Dr. Anthony K. Pickett, Fabrice Payen
Status and Challenges for Predictive Crash Simulation of Textile Composites
- ▶ e-Xstream engineering - Jan Seyfarth, Roger Assaker
Challenges and Solutions for the FE Analyst in the Crash Modeling of Plastic Composite Parts

NVH: Vibration Comfort

Parallel Session 9:00 - 12:15 - Conference Room 1-4

Industry Requirements

- ▶ Tecosim GmbH – Udo Jankowski
The Challenge of Vibration Comfort

Research - State of the Art

- ▶ University invited
Vibration Comfort - Research State of the Art

Software Solutions

- ▶ Altair Engineering GmbH - Hans Gruber
NVH Performance Optimization of full Vehicles in Automotive Development
- ▶ ESI GmbH – Willem van Hal, Christian Marca
Efficient Methods to Handle Time and Frequency Dependency in Static and Vibrational Comfort

● Round Table Discussion



▶ Richard Brown
Jaguar Land Rover
Richard Brown is a Technical Specialist in the field of crash CAE, focusing on the development of methods and techniques to improve simulation of the occupant environment in crash load cases. In this context, robustness and variability considerations also represent an important part of the role.

CAE General: Robust Design

Plenary Session 13:45 - 17:00 - Brueder Grimm Saal

Industry Requirements

- ▶ Daimler India - Srikanth Kethu
Robustness Analysis in Crashworthiness

Research - State of the Art

- ▶ Fraunhofer SCAI - Dr. Tanja Clees, Dr. Lialia Nikitina, Dr. Igor Nikitin, Daniela Steffes-lai, Nils Hornung
Robust Design in the Automotive Industry – An Overview

Software Solutions

- ▶ CONTACT Software GmbH/Munich University of Applied Sciences - Michael Marijanovic, Prof. Dr.-Ing. Klemens Rother
Robust Parametric Modelling - a Prerequisite for Efficient Robust Design Optimization
- ▶ Dynardo GmbH - Dr. Johannes Will
Robust Design Optimization for Automotive Applications
- ▶ ESTECO Srl – Prof. Carlo Poloni
Multi Objective Robust Design Optimization: a Mature Technology for Design under Uncertainties

● Round Table Discussion



▶ Karsten Schuffenhauer
Automobili Lamborghini SpA
Karsten Schuffenhauer is responsible for CAE-methods of composite parts and structures at Lamborghini. He is working on structural analysis as well as on CA-methods for manufacturing of composite parts. Part of his work is the planning of testing campaign for material characterization.



▶ Udo Jankowski
Tecosim GmbH
Udo Jankowski is director of TECOSIM since 1999. With more than 350 employees, the company is one of the leading CAE service suppliers worldwide. Aside his position in the management board, Udo Jankowski acts as lecturer and key-speaker for science and industry.



▶ Srikanth Kethu
Mercedes-Benz R&D India
Srikanth Kethu has been with Mercedes-Benz R&D India since 2008, primarily working in the area of robustness analysis of crash structures. Using robustness analyses, deeper insight about robustness of models and designs have been derived from the idealistic CAE models of Mercedes-Benz Cars. Between 2002-2008 he worked for carhs and for Tecosim in Germany as a frontal occupant safety engineer.