

## Scheduled presentations

### Keynote speeches

#### How can CAE support Innovation?

Dr. Vasilios Bakolas  
Schaeffler Technologies AG & Co. KG.

#### Introduction of active safety technology into new car assessment programmes

Prof. Sadayuki Ujihashi  
Chair of JNCAP, Professor Emeritus at Tokyo Institute of Technology

### Presentations by BETA CAE Systems:

#### Latest developments in BETA CAE Systems product line

Chryssa Sferidou  
BETA CAE Systems SA, Greece

#### Future developments in BETA CAE Systems product line

Christos Kolovos  
BETA CAE Systems SA, Greece

#### EMILYSIS: of new FEA solver

Stefanos Chatziangelidis  
BETA CAE Systems SA, Greece

#### Complete solution for model build-up

Irene Makropoulou  
BETA CAE Systems SA, Greece

#### ANSA DM: simulation data management in pre- and post-processing

Dimitrios Katramados  
BETA CAE Systems SA, Greece

#### High-end solutions for CFD with ANSA/μETA

Vangelis Skaperdas  
BETA CAE Systems SA, Greece

#### New technologies for Occupant Safety model set-up and analysis

Athanasios Fokilidis\*, Athanasios Lioras  
BETA CAE Systems SA, Greece

#### Design improvement through enhanced processes available within NVH Console

Tassos Sarridis\*, Vasileios Pavlidis  
BETA CAE Systems, Greece

#### Laminated composite products: simulation process made easy

Ioannis Nerantzis  
BETA CAE Systems SA, Greece

#### The evolution of BETA CAE Systems suite scripting capabilities into a full CAE development platform

Yianni Kolokythas\*, Michael Giannakidis  
BETA CAE Systems SA, Greece

### Contributed Presentations

#### Crash CAE in the all new Volvo XC90 and SPA platform

Domenico Macri\*, Anders Sandahl, Johan Jergeus, Oscar Centeno, Anders Ericsson, Weijia Wu, Emil Claesson, Per Anders Eggertsen, Mathias Retzlaff, Michelle Khoo  
Volvo Car Corporation, Sweden

#### Analyzing scatter of crash simulation results using the DIFFCRASH plug-in within μETA

<sup>1</sup>Dominik Borsotto\*, <sup>2</sup>Antonios Perifanis, <sup>2</sup>Dimitrios Siskos  
<sup>1</sup>SIDACT GmbH, Germany, <sup>2</sup>BETA CAE Systems SA

**A new approach on data management for the CAE model-building process at BMW: DCM-GUI**

<sup>1</sup>Michael Tryfonidis\*, <sup>2</sup>Hans-Peter Daunhert, <sup>2</sup>Marcel Meder

<sup>1</sup>BETA CAE Systems SA, Greece,

<sup>2</sup>BMW Group, Germany

**Data process for CAE – structural analysis: from data hunting to drag & drop**

Uwe Krempels

Daimler AG, Germany

**ANSA scripting for automated pedestrian marking and simulation input**

<sup>1</sup>Yogesh Upreti <sup>1</sup>Matthias Erzgraeber <sup>2</sup>Thanassis Fokylidis

<sup>1</sup>Adam Opel AG, Germany,

<sup>2</sup>BETA CAE Systems SA, Greece

**Pedestrian protection head impacts in glass correlation FEM test in the new SEAT Leon**

Angel Segura Santillana\*, Carlos Arregui Dalmases, Benito-Javier Luzón Narro.

SEAT Centro Técnico, Spain

**Process automation tools for accelerating CAE processes in ANSA environment**

Umesh Mallikarjunaiah\*, Mrityunjaya Yeli, Prakash Krishnaswamy

Xitadel Group, India

**SPDRM implementation in a European automotive OEM**

<sup>1</sup>Irene Makropoulou\*, <sup>2</sup>Niclas Dagson, <sup>1</sup>Menelaos Pappas

<sup>1</sup>BETA CAE Systems SA, Greece,

<sup>2</sup>ALTEN AB, Sweden

**Increased accuracy in squeak & rattle simulations by enhanced material properties, damping values and aligned evaluation directions**

<sup>1</sup>Mehrdad Moridnejad, <sup>1,2</sup>Casper Wickman, <sup>1</sup>Jens Weber, <sup>2</sup>Lars Lindqvist, <sup>2</sup>Rikard Söderberg

<sup>1</sup>Volvo Car Corporation, Sweden,

<sup>2</sup>Chalmers University of Technology, Sweden

**Global damping validation and a new modal contribution feature for squeak & rattle simulation**

Samy Bazine, Jens Weber\*

Volvo Car Corporation, Sweden

**Pleasure vessel vibration and noise finite element analysis**

<sup>1</sup>Sergio Macchiavello\*, <sup>2</sup>Angelo Tonelli

<sup>1</sup>D'Appolonia S.p.A., Italy, <sup>2</sup>Rina Services S.p.A., Italy

**Performance-oriented partners in simulation - engine development as an example**

Dr.-Ing. Michael Klein\*, Dr.-Ing. Reinhard Helfrich

INTES GmbH, Germany

**FEM analysis of a belt conveyor driving drum**

A. Mihailidis, E. Bouras\*, E. Athanasopoulos

Aristotle University of Thessaloniki, Greece

**Development of an automatic procedure for safety analysis of elevator frames following the EN-81 regulation**

Dr. Ioannis Zyganitidis

BLAU EI O.E., Greece

**Design and topology optimization for additively manufactured structural parts: a formula student case study**

H. Bikas, J. Stavridis, P. Stavropoulos\*, G. Chryssolouris\*\*

Laboratory for Manufacturing Systems and Automation, Department of Mechanical Engineering and Aeronautics, University of Patras, Greece

\*\*Corresponding author

**Customization of  $\mu$ ETA post for display of results from a molding simulation**

<sup>1</sup>Prasanna Kondapalli\*, <sup>1</sup>James McGuire, <sup>1</sup>Damiano LaRosa, <sup>2</sup>Deepak Lokesh, <sup>2</sup>Joshua Sims

<sup>1</sup>BASF Corp., U.S.A, <sup>2</sup>BETA CAE Systems USA Inc., USA

**Improving efficiency of ACMS and AMLS domain composition methods for large vibratory systems using re-analysis concepts**

<sup>1</sup>Zissimos Mourelatos, <sup>2</sup>Santosh Patil, <sup>2</sup>John Skarakis

<sup>1</sup>Oakland University, Rochester MI, USA,

<sup>2</sup>BETA CAE Systems USA Inc., USA

**The effect of masticatory loading on the cervical loop region of the incisor in rodents**

<sup>1</sup>Thimios Mitsiadis\*, <sup>2</sup>Alexander Tsouknidas, <sup>3</sup>Vagelis Karatsis, <sup>2</sup>Nikolaos Michailidis

<sup>1</sup>Institute of Oral Biology, University of Zurich, Switzerland,

<sup>2</sup>Department of Mechanical Engineering, Aristotle University of Thessaloniki, Greece

<sup>3</sup>BETA CAE Systems SA, Thessaloniki, Greece.

**A new approach on processing large scale computer tomography data in conjunction with high-end CAE pre-processing**

<sup>1</sup>Daniel Heiserer\*, <sup>2</sup>Michael Tryfonidis

<sup>1</sup>BMW Group, Germany

<sup>2</sup>BETA CAE Systems SA, Greece

**3D shape recognition using ANSA scripts**

Koji Otani

Integral Technology Co. Ltd., Japan

**Automatic generation of multibody simulations in ANSA by usage of graph-based design languages**

Constantin Diez

Adam Opel AG, Germany

**Design and study of door components for a two-seater electric vehicle in side impact conditions**

Panagiotis Bazios\*, Polychronis Spanoudakis, Nikolaos Tsourveloudis

School of Production Engineering and Management, Technical University of Crete, Greece

**Sheet metal forming optimization using ANSA and LS-DYNA**

Simone Ferrero\*, Caterina Tribuzi

Nova Analysis, Italy

**Automation Tool for sheet metal stamping using ANSA**

Ramesh Venkatesan, Jithesh Erancheri, Nanda Kumar

Kaizenat Technologies Private Limited, India

**MFAT - A basic fatigue module for  $\mu$ ETA-post**

<sup>1</sup>Anders Jonsson\*, <sup>2</sup>Martin Sjöberg, <sup>2</sup>Johnny Grenwald

<sup>1</sup>DynaMORE Nordic AB, Sweden,

<sup>2</sup>BAE Systems, Sweden

**Thermal simulations with THESEUS-FE and ANSA: Optimizing thermal comfort in an office building environment**

Dr. Daniel Köster

P+Z Engineering GmbH, Munich, Germany

**Analysis of pressed composite automotive tailgate using ANSA &  $\mu$ ETA**

Andy Ngai, Mark Arnold

PENSO, UK

**Simulation of carbon-roving-structures-extreme light and strong by filament wound reinforcement**

<sup>1</sup>Dirk Dreißig\*, <sup>2</sup>Peter Faßbänder, <sup>1</sup>Ulrich Hindenlang

<sup>1</sup>LASSO Ingenieurgesellschaft mbH, Germany,

<sup>2</sup>FS Software & Konstruktionen GmbH, Germany

**Execution and evaluation of the optimization process for a multi-material damping treatment**

<sup>1</sup>Mariam Jaber\*, <sup>1</sup>Ainsley Baum, <sup>1</sup>Helmut Schneeweiss, <sup>2</sup>Joachim Bös, <sup>2</sup>Tobias Melz

<sup>1</sup>BMW Group, Germany,

<sup>2</sup>Technische Universität Darmstadt, Germany

**Size and shape optimization of overmolded continuous glass fiber laminate with short glass fiber reinforced polyamide for maximum impact resistance using ANSA, LS-OPT, and LS-DYNA coupled with ULTRASIM<sup>®</sup>**

Praphulla Chandra\*, Rodrigo Orozco

BASF Performance Materials, USA

### **The benefit of ANSA tools in the Dallara CFD process**

Simona Invernizzi  
Dallara Engineering, Italy

### **FEMZip compression and faster $\mu$ ETA visualization of CFD results**

<sup>1</sup>Pinaki Banerjee\*, Stefan Müller, <sup>2</sup>George Kalaitzidis, <sup>2</sup>Dimitrios Siskos  
<sup>1</sup>SIDACT GmbH, Germany  
<sup>2</sup>BETA CAE Systems SA, Greece

### **On vortex shedding from trailing edge of a full-scale marine propeller blade**

Saeed Javdani\*, Nicholas Mitroglou, John S. Carlton  
City University London, School of Engineering and Mathematical Sciences, UK

### **Mesh curving techniques and parallel simulations of high order discontinuous Galerkin schemes on unstructured meshes**

<sup>1</sup>F. Hindenlang, <sup>2</sup>G. Gassner, <sup>3</sup>C.-D. Munz  
<sup>1</sup>Max-Planck Institute for Plasma Physics, Garching, Germany  
<sup>2</sup>Mathematical Institute, University of Cologne, Germany  
<sup>3</sup>Institute for Aero- and Gas dynamics, University of Stuttgart, Germany

### **The influence of mesh characteristics on OpenFOAM simulations of the DrivAer model**

Grigoris Fotiadis\*, Vangelis Skaperdas, Aristotelis Iordanidis  
BETA CAE Systems SA, Greece

### **Automated optimization of a CAE external aerodynamics for aero-drag reduction**

<sup>1</sup>Andrea Serra\*, <sup>1</sup>Massimiliana Carello, <sup>2</sup>Marco di Nonno  
<sup>1</sup>Politecnico di Torino, Italy,  
<sup>2</sup>BETA CAE Italy Srl, Italy

### **Numerical simulations of flow through S-Duct**

<sup>1</sup>Pravin Peddiraju, <sup>1</sup>Arthur Papadopoulos, <sup>2</sup>Vangelis Skaperdas, <sup>3</sup>Linda Hedges  
<sup>1</sup>BETA CAE Systems USA Inc., USA,  
<sup>2</sup>BETA CAE Systems SA, Greece,  
<sup>3</sup>CFD Consultant, USA

### **CFD comparison for the SARM rotary engine with a conventional reciprocating Otto cycle engine**

<sup>1</sup>Vasileios Gkoutzamanis \*, <sup>2</sup>Dimitris Mertzis, <sup>1</sup>Savvas Nikolaidis, <sup>1</sup>Savvas Savvakis  
<sup>1</sup>the SARM Project ([www.thesarmproject.com](http://www.thesarmproject.com)), Greece  
<sup>2</sup>Laboratory of Applied Thermodynamics, Department of Mechanical Engineering, Aristotle University of Thessaloniki, Greece

### **CFD analysis of supersonic and hypersonic wings using ANSA and $\mu$ ETA tools**

Kaleeswaran Balasubramaniam\*, Shivakumar Biradar  
Xitadel CAE Technologies, India

### **Importance of accuracy in CFD simulations**

Vedat Akdag  
Metacomp Technologies, USA

### **Multiobjective duct optimization with open source CFD solver**

<sup>1</sup>Daniele Obiso, <sup>2</sup>Stamatina Petropoulou  
<sup>1</sup>Phitec IngegneriaSrl, Italy,  
<sup>2</sup>ICON Technology & Process Consulting Ltd, United Kingdom

### **Numerical simulation of multiphase flow through porous media - application to flow through porous shale reservoirs**

M. Aboukhedr\*, Dr. K Vogiatzaki, Prof. M. Gavaises, Dr N. Mitroglou  
City University London, UK

### **FSI analysis & optimization of a scaled racing car**

Ch. Kokkinos\*, K. Loukas, S. Kokkinos, A. Kovanis, M. Anastasopoulos, F. Kopsaftopoulos  
FEAC Engineering P.C., Greece

### **Prediction of resistive soot sensor behavior in diesel exhaust via 3D simulation of soot deposition**

Pavlos Fragkiadoulakis\*, Dimitris Mertzis, Savas Geivanidis, Zissis Samaras  
Laboratory of Applied Thermodynamics, Dept. of Mechanical Engineering, Faculty of Engineering, Aristotle University of Thessaloniki, Greece

**Parametrization of geometry with morphing boxes and integration in a multi-disciplinary optimization**

Paul-Edouard Munch

Dr. Ing. h.c. F. Porsche AG, Germany

**Design optimization with ANSA morph**

Tobias Eidevåg\*, David Tarazona Ramos\*, Mohammad El-Alti

Alten AB, Sweden

**Optimization of morphing parameters using ANSA and VR&D Genesis**

Nick Kalargeris\*, Dr Roger Darlington, Mark McNally

Jaguar Land Rover Ltd, UK

**Morphing strategies library presentation**

Joshua Sims\*, Sunil Earla, Ravi Nimbalkar, Yatin Kumbhar

BETA CAE Systems USA Inc., USA

**Multistage optimization of automotive control arm through topology and shape optimization**

<sup>1</sup>Duane Detwiler, <sup>2</sup>Emily Nutwell\*, <sup>3</sup>Deepak Lokesha

<sup>1</sup>Honda R&D Americas, USA,

<sup>2</sup>Ohio State University SIMCenter, USA,

<sup>3</sup>BETA CAE Systems USA Inc., USA

**Application of non-parametric sizing optimization for car body parts using Simulia Tosca structure and ANSA**

<sup>1</sup>Georgi Chakmakov\*, <sup>2</sup>Serafim Chatzimoisiadis

<sup>1</sup>Dassault Systèmes, Bulgaria

<sup>2</sup>BETA CAE Systems SA, Greece

**Connecting rod optimization integrating modeFrontier with ANSA**

<sup>1</sup>Alberto Clarich\*, <sup>1</sup>Marco Carriglio, <sup>2</sup>Giulio Bertulin, <sup>2</sup>Günther Pessl

<sup>1</sup>ESTECO SpA, Italy, <sup>2</sup>BMW Motoren GmbH, Austria

**Morphing, optimization and automation strategies in ANSA - The efficient way to optimization**

Onkar Mande\*, Ravi Nimbalkar

BETA CAE Systems USA Inc., USA