Preliminary Agenda & Invitation

nafems.org/congress

Preliminary Agenda - Version 4 - May 25th 2017
NAFEMS World Congress 2017

Engineering analysis, modelling, simulation, and systems engineering are becoming ever more embedded in the product development process across all industries in every part of the world. The technology is no longer seen as niche – we are moving into the mainstream at a rapid pace.

As manufacturing techniques and product lifecycle management processes develop and grow, the use of Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Multibody Simulation (MBS) and all of the associated technologies is increasing exponentially. As a result, your community is expanding and evolving with the technology into a truly cross-industry, multi-skilled, global society, with its own unique perspectives, problems, and solutions.

We stand at a crossroad. In order for the technology to progress further and for us, the users, to keep pace with this development, collaboration and sharing of experience and knowledge is vital.

There is only one independent, international conference dedicated exclusively to everyone involved in engineering analysis, simulation, modelling, and systems engineering, and we want YOU to be a part of it.

International Conference on Simulation Process and Data Management

The NAFEMS World Congress will also host the 3rd International Conference on Simulation Process and Data Management (SPDM). This industry-leading event will bring together industrial users, technology experts, academics and software vendors alike, allowing all those with an interest to take part in the only truly independent, international forum dedicated to SPDM.

Manufacturing Process Simulation & Additive Manufacturing Symposium

As well as the SPDM Conference, the NAFEMS World Congress will also host a dedicated symposium on Manufacturing Process Simulation & Additive Manufacturing, covering virtual manufacturing tools within the product design and manufacturing cycle.

Attendees, speakers and exhibitors have access to all these events under one registration.

Registration Fees

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<th>PRESENTING AUTHORS</th>
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<tr>
<td>NAFEMS Members</td>
<td>€990</td>
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<tr>
<td>Non-Members</td>
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All fees + 25% local Swedish VAT.
For questions regarding VAT refund please contact the tax authorities in your country.
Plenary Presentations

Steven A. Chisholm
Boeing Commercial Airplanes
Smarter Testing Through Simulation for Efficient Design and Attainment of Regulatory Compliance
Steve Chisholm is the Boeing Commercial Airplanes (BCA) Director of Structures Engineering. In this capacity, Steven leads BCA Airplane Structures in support of Airplane Development, Airplane Programs, Product Development and Commercial Aviation Services. He is also responsible for driving functional excellence for all Structures Design and Stress skills across BCA and is the Structures Engineering process and skill owner for BCA.

Georg N. Duda
Charité
Mechano Biology of Tissue Regeneration
Georg Duda received his degree in Precision Engineering and Biomedical Engineering from the Technical University in Berlin, and received his Doctorate from Technical University in Hamburg-Harburg in 1996. In 1997 he became Head of the research department at the Center for Musculoskeletal Surgery (CMSC) at the Charité. In 2001 he accepted a call to a Professorship in “Biomechanics and Engineering process and skill owner for BCA.

Peter Giddings
National Composites Centre
Virtual Manufacturing – Taking Manufacturing Simulation to the Shop Floor
Peter Giddings is Technology Integrator and Capability Leader for automated deposition at the National Composites Centre (NCC) in Bristol, UK. After 10 years in composites research he has specialised in the application of virtual manufacturing tools to improve outcomes and to gain physical understanding of High-Value manufacturing processes. Dr Giddings is Chairman of the NAFEMS Manufacturing Process Simulation Working Group, and sits on the Industrial Advisory Board of the European Materials Modelling Commission.

Dirk Ruschmeier
Dr. Ing. H.c. F. Porsche
Simulation Data Management – The Next Challenges
Dirk Ruschmeier is responsible for identifying, initiating and leading IT projects to establish and extend IT systems for data management. He is also responsible for processes, methods and IT technologies for linking and interconnecting data and systems in virtual development, and for coordinating data science methods and technologies into the virtual development process.

Fred Huizinga
ASML
Introducing PSE within ASML – Lessons Learned and the Way Forward
Fred Huizinga obtained his MSc in Mechanical Engineering at the Eindhoven University of Technology, and started his professional career as a Design Engineer in 1984 when he joined Volvo Cars. He soon became interested in CAE and moved into the CAE Department where he was gradually promoted from CAE Engineer to Manager of the Chassis, DriveLine and CAE department. After a career of 25 years within Automotive Engineering, he joined ASML in 2011 as manager of the Mechanical Analysis Group. In his current position, he is responsible for all of the Mechanical Analyses performed within ASML.

Barna Szabó
Engineering Software Research & Development, Inc.
On the Formulation and Application of Design Rules
Barna Szabó is co-founder and chairman of Engineering Software Research and Development, Inc. His areas of expertise include mathematical modeling techniques, methods for the assurance of the reliability of engineering decisions based on computed information. Dr. Szabó is an external member of the Hungarian Academy of Sciences, Fellow of the St. Louis Academy of Sciences, holds an honorary doctorate and is a founding member and fellow of the US Association for Computational Mechanics.

View the abstracts at nafems.org/congress
Why Attend?

Learn how organisations are generating confidence in their simulation capability
Having a simulation capability is no longer a differentiator. To remain competitive companies need to have a capability and be able to use the capability effectively to produce results that are reliable and repeatable. Generating confidence in the capability of the simulation team is essential to move analysis from being a ‘tick box’ in the design process to a strategic capability.

Discover how organisations are extending the benefits of simulation to their non-expert users
Putting simulation into the hands of the non-expert is a subject that elicits much discussion within NAFEMS committees. On one hand, NAFEMS aims to act as an advocate for the deployment of simulation, and extending the capability of running simulations or accessing simulation results to inform strategic decisions is viewed positively. However, if the capabilities are not controlled errors and incorrect assumptions will lead to simulation being viewed with suspicion.

Understand how leading companies are using their simulation capability to support product certification
Engineering analysis and simulation offers significant cost and time savings by reducing the amount of experimental testing that is required to design a product so that it is fit for purpose.

Learn why simulation engineers should be aware of the role played by the systems engineer
With increasing product complexity the role of the systems engineer has become more prevalent. Systems Engineering involves an integration of multiple disciplines to form a development process that proceeds from concept to production.

Join the discussion on what considerations should be taken into account when implementing an SDM system
Companies wishing to implement SDM often find it very difficult to put off-the-shelf offerings into production. Most managers and practitioners in Engineering Simulation organisations have little experience in designing information systems and are ill-equipped to run a selection process to ensure that the proposed solution will deliver the expected benefits.
Join the discussion on how to embed analysis and simulation into the manufacturing culture within your organisation

While the benefits of incorporating simulation into the manufacturing process are clear, manufacturing process simulations are inherently complicated. The processes that are being simulated are often highly coupled Multiphysics environments with the input properties required by the material models often difficult to obtain and subject to significant variability. Accurate modelling of the physical processes can result in long run times that do not meet the requirements of the manufacturing team.

Find out how the major engineering analysis codes are evolving to address new HPC trends

The last decade has seen the cost of hardware fall dramatically meaning that the cost of software licenses is now a significant consideration when selecting hardware to support an organisation’s analysis capability. Many numerical codes scale extremely well and are taking advantage of recent advances in terms of utilising GPUs. With many experts predicting that the end is finally nigh for Moore’s law where does that leave the simulation engineer?

Learn how simulation can support the 3D printing revolution

Additive manufacturing is a breakthrough technology that has the ability to produce parts without tooling. This method has seen widespread publicity in recent years and, as the technology advances and the costs continue to fall, additive manufacturing is expected to become more prevalent and lead to innovative new designs.
Stockholm
One City, Fourteen Islands

The two-year wait is over; June sees the return of the biennial NAFEMS World Congress in the stunning Swedish capital Stockholm, rightfully branded the 'Capital of Scandinavia'. This, however, is not a capital city like any other. Situated at the confluence of Lake Malaren and the Baltic Sea, Stockholm is comprised of an incredible 14 islands, all connected by a network of over 50 bridges and viaducts.

These islands showcase the vibrant cultural history and the innovative, future-shaping character of Stockholm. From the congress venue, a twenty-minute walk over the picturesque Vasabron (Vasa Bridge) will take you to the cobbled streets of Stockholm’s 13th century historic heart, Gamla stan. nafe.ms/2nsovdv

Follow the delightful and charming narrow streets of this fairy tale world and you will discover the Royal palace - official residence of the present day Swedish monarchy, the National cathedral of Sweden, the Nobel Museum to name just a few of the buildings in this part of the city. If all that walking leaves you with sore feet, then stop at Stortorget, the oldest square in Stockholm and take a few moments to enjoy the picturesque setting.

Don’t let the fairy tale world of Gamla stan fool you, Stockholm is one of the most forward thinking and innovative cities in the world. Just a short subway ride away in the Johanneshov neighbourhood you will find the Ericsson Globe - the world’s most hemispherical building. Here you can find out about this impressive engineering feat and take a glass sky-car to the very top of the building where you will be rewarded with spectacular views of Stockholm. Of course you need not look any further than the stunning congress venue to find evidence of Swedish engineering and architectural ingenuity. The building is a gleaming steel, glass and concrete construction boasting green energy credentials that will impress the renewables engineer and fatigue and fracture aficionado in equal measure.

While we’re on the subject of glass and concrete, the award winning Scandic Victoria Tower is a unique hotel building in the neighbourhood of Kista, home of the Kista Science City kista.com. The hotel building continues Stockholm’s tradition of creativity and innovation but also has a sense of playful creativity about it, proving that high tech engineering need not just be functional. Clothed entirely in a reflective glass skin, the building seems to play a game of ‘now you see me, now you don’t’ with the viewer – it is a definite must see.
Once you have taken advantage of the many free short-training courses on offer during the congress, why not continue your learning with an informative boat tour around this city of islands? You can take your time on a 3-hour guided tour, a flexible 24-hour hop-on/off ticket or a quick 50-minute canal tour. An extra day or two before or after the congress will give you enough time to experience the magic of the further 30,000 (yes, really) islands, islets and rocks that comprise the greater Stockholm archipelago which stretches eastward from the city over an area of some 60 kilometres. Among the many gems you can visit in the archipelago is, notably, Ytterby- the tiny village that can claim the names of not one but four elements on the periodic table- we’ll let you figure out which ones! The islands of the archipelago offer everything from the sandy beaches of aptly named Sandhamm to the rugged dramatic cliffs of Utö further to the south. All these and more can be reached via Stockholm’s excellent network of ferries, trains and buses.

If time is precious then the city’s 14 main islands will give you more than enough to do. June is the perfect time to find yourself in Stockholm if for no other reason than the joy of having 18 glorious hours of daylight, all the more time to unwind and enjoy Stockholm after a day of engineering simulation. Hop from island to island and take in their different characters, from hip Sodermalm to the green island of Djurgårdenas with its gardens and excellent museums.

One of the most characteristically Swedish traditions of all is Midsummer, when the sky never darkens. In 2017 it’s celebrated on June 24, just a few days after the Congress - you’ll never get a better opportunity to experience this magical festival.

If you work up an appetite, your choices of eatery extend much, much further than herring and meatballs. From the very chic Nordic Cuisine eateries on Östermalm to the award winning seasonal fare on the menus of the restaurants and bistros on Lilla Essingen, you will be spoilt for choice. Every palate is catered for in this thoroughly global yet uniquely Scandinavian city.

We hope we have piqued your interest and look forward to welcoming you to the NAFEMS World Congress 2017 in Stockholm, Sweden’s wonderful city of islands – you will be glad you came.
Sponsorship & Exhibition: An Outstanding Opportunity

The NAFEMS World Congress presents a unique opportunity, as delegates are primarily high-level decision makers working in industry across the globe. The exhibition area will be a central point at the Congress, ensuring that there is a consistent level of "traffic" at all times – refreshments, announcements, events, and competitions will focus on this area, giving you the chance to meet as many of our delegates as possible.

Align yourself with the NAFEMS Brand

As the only international association dedicated to the engineering analysis, modelling, simulation, and systems engineering community, NAFEMS is widely held to be the leading independent source of information and training for engineering analysts and designers of all levels. Sponsors and exhibitors will have the chance to promote their attendance prior to the event, through the various packages outlined at nafems.org/congress. Being seen to be participating in the NAFEMS World Congress gives the analysis world a positive impression of your company’s commitment to best practice, standards and continued professional development.

Benefits

So what are the benefits of sponsoring and exhibiting at the Congress?

- Promote your company to a large but highly focused group of individuals who have a pre-qualified interest in your product
- Establish important contacts within the industry
- Keep an eye on the activities of your direct competition
- Increase your company’s visibility and standing in the analysis community
- Showcase your latest product releases and service offerings
- Discover exactly what your target market needs, and what trends are emerging across the industry

nafems.org/congress/sponsor

Exhibitors

Altair Engineering
Ansys
Aras PLM Software
Beta CAE Systems
Ceetron
CEI / Ensight
Cimne GiD
Comsol
Dassault Systemes Simulia
Datadvance
Digital Engineering
DYNAmore Nordic
Dynardo
Engys
ESI Group
Esteco
FS Dynamics
FunctionBay
Granta Design
HBM Prensicia
Intes
ITI – International TechneGroup
Math2Market
Mentor Graphics
Modelon
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Numeca
PDTec
Phoenix Integration
Pointwise
Scale
SDC Verifier
Siemens PLM
Synopsys
Technia Transcat
Volume Graphics

Platinum Sponsor

Gold Sponsors

Silver Sponsors

SPDM Sponsors

Media Partners

Exhibitors
Preliminary Agenda

08:30 Opening Welcome Address
C. Stavrakis, T. Morris, R. Oswald (NAFEMS)

08:45 Smarter Testing Through Simulation for Efficient Design and Attainment of Regulatory Compliance
U. Lindblad (Tetra Pak, SWE)

10:15 Coffee Break

11:00 1A Additive Manufacturing - Process Simulation 1

- Different AM Technologies? Scope & Limitations
  - C. Schlipf (Advancing Manufacturing Magazine, AUT)

- Metal Additive Manufacturing: Processing Validation and Testing
  - S. Simunic, A. Nyce, N. Vukosavljevic (Oak Ridge National Laboratory, USA), C. Vones, T. C. (Dassault Systems Simulia, USA)

Simulation of Metal-Additive Manufacturing
  - T. Werthamer (MSC Software, USA), H. Schottfeld (Simufact, GER), M. Telsch (MSC Software, USA)

- Considering Print Direction in Topology Optimization to Minimize Overhang Constraints
  - S. Aliabadi, A. Narasimhan (Dassault Systems Simulia, USA), K. Rege, M. McDonald (Sanheco, GER), I. Miller (Purdue University, USA), C. Pederson, M. Hoffarth (Dassault Systems Simulia, USA), T. Gilbert (Dassault Systems Canada, CAN)

12:25 Lunch Break

13:45 2A Additive Manufacturing - Materials Data & Methods

- Materials Characterization and Probabilistic Methods to the Design of Advanced Aero Engines
  - A. Karl, A. White (Rolls-Royce, USA), Z. Grey, P. Constable (Colorado School of Mines, USA)

- Probabilistic Methods in Rotor Dynamic Design of Turbine-Generators: A Tutorial
  - J. Louchey, K. Ha (Siemens Power and Gas, GER), K. Cernam (University of Applied Sciences, GER)

- Uncertainty Quantification Discussion Session
  - A. Karl (Rolls Royce, Chairman of the NAFEMS Statistics Working Group), C. Rogers (CREA, Associate, Chairman of the NAFEMS Analysis Management Working Group)

- Uncertainty Quantification Discussion Session
  - A. Karl (Rolls Royce, Chairman of the NAFEMS Statistics Working Group), C. Rogers (CREA, Associate, Chairman of the NAFEMS Analysis Management Working Group)

15:10 Coffee Break
### 3F - CFD - Multi-phase Flow 1
- Computational Fluid Dynamics Simulations of Ships in High Waves
  - D. Frik, P. Carlsson, D. Dahlin (FS Dynamics Sweden, SWE)
- Computational Fluid Dynamics Modeling of the Catastrophic Failure of Storage Tanks
  - C. Meidich, W. Atherton, C. Harris, G. Rotwell, D. Allanson (Liverpool John Moores University, GBR)

### 3G - CFD - Multi-phase Flow 2
- Advances in CFD for Gas-Liquid Two Phase Flow Simulations in Engineering Applications
  - M. Magalhaes, J. Zheng, M. Inokuma (Chiyoda, JPN)
- Design and Verification of Tunnel Liquid Column Dampers for High-Rise Buildings Using CFD
  - P. Camps, E. de Villerius (Engie, GBR); S. Cameniti (BMT Fluid Mechanics, GBR)
- A Multiphase Flow Model for a Car Windshield Wiper System
  - H. Runstorp, F. Carlsson, U. Engström (FS Dynamics Sweden, SWE)
- DNS of the Viscous High-Speed Flow Past a Cylinder
  - G. Deyvis (Volvo Cars, SWE)

### 4H - Dynamics & Testing 1
- Experimental Analysis, Simulation and Decomposition of Vibrations in Not Perfectly Axisymmetric Pipes
  - L. Landel, J.B. Larsen (Grundfos Holding A/S, DEN); S. V. Simon (Ballistol University, DEN)
  - P. D’Ambrosio (Innovatix - A Siemens Company, BEL); A. Carmeli (Innovatix, BEL); E. Palacios (Innovatix Launches, PRI)
- An Experimental Method for the Dynamic Analysis of Rivers Connected to Floating Offshore Platforms
  - F. Corme (University of Navarra, BPA); B. Pinheiro Jacob (Cabo de Pina, BPA)
- Analysis of the Dynamic Response of Civil Structures Subjected to Seismic Actions
  - R. Nogues (Universitat Politècnica de Catalunya, ESP); S. Churruca (Universidad de A Coruña, ESP)

### 4J - Free Session

### 3E - Multidisciplinary Analysis
- Multi-Discipline Product Engineering
  - J. Claeys, C. Goum, B. Fassi (Schneider Electric Industries, FRA)
- Structural Analysis of Rotorcraft Fuselage in a Multidisciplinary Environment
  - D. Schimm, P. Weiland, M. Schmid (DLR - German Aerospace Center, GER)

### 3I - NVH
- Advanced Anisotropic Damping Modeling for NVH Optimization
  - M. Felice, A. Zouari (Ford Motor Company, USA); S. Calmels (e-Link Engineering, USA)
- A Simulation Study of Motor Noise Occurrence Behavior in R-MDPS System
  - H. Cho, J. Lee (Hyundai Motor, KOR)
- Improving the Vehicle Ride Quality Using Multi-Model Optimization
  - S. Ravikoti, G. Kunavi, P. Kosa, W. Diaz (Albatross Engineering, USA)

### 3K - NVH Management
- The Future of Modeling and Simulation at Cummins
  - B. Tickel (Cummins Engine Company, USA)
- Mid-Stage Validation as a Process Step in Simulation & V
day
  - P. Lobos, M. Lobstek, B. Crop (DataPoint Labs Technical Center for Materials, USA)
- An FEM Model Consists of More Than Just a Model
  - S. Vasel (Fokker Aeronautics, NED)

### 4K - Dynamic Components 2
- Use of Supersymmetric Adaptive Metaballs to Demosize High-End Finite Element Analysis
  - M.J. Gribble (Robins Analytics Solutions, USA)
- Capturing, Integrating & Automating CAE Workflow
  - R. Nathan, R. Ramanna, B. R. M. Asarp (ESI India Software, IND)
- Frontloading CFD - Required Technologies
  - M. Gnatowsky, M. Sabour (Mentor Graphics, GER); A. Sobachlin (Mentor Graphics, RUS); K. Harms (Mentor Graphics, GBR)
### Sponsor Session
**Sponsor Session**
**CAE Engineering**
**Simulation in the Age of Internet of Things**
- **Varshneya**

### Sponsor Session
**Sponsor Session**
**Aerospace Engineering**
**Ten Steps for Best Practice in Modeling and Simulation Using Comsol Multiphysics**
- **Frost**

### Sponsor Session
**Sponsor Session**
**ANSYS**
**Adding Design and Process Simulation**
- **Mitchell**

### Sponsor Session
**Sponsor Session**
**Conferences**
**Confused with Algorithm Selection During Design Space Exploration?**
- **Chec**

### Sponsor Session
**Sponsor Session**
**PD Tec**
**CSI**

### Sponsor Session
**Predictive Analytics Simulation and the Digital Twin Enabled with Anslysis Technology**
- **Perin**

### Real World Additive Manufacturing
**Real World Additive Manufacturing**
- **Wenner**

### Coffee Break
**Coffee Break**

### Latest Developments in Non-Parametric Structural Optimization for Industrial Designing Using Adjunt Sensitive
- **Pedersen**

### SimData Manager – A Comprehensive SDM-Solution
- **Pfeif**

### The Journey from Simulation and Virtual Prototyping Towards the Hybrid Digital Twin and Product Performance Lifecycle
- **Sad**

### The Definition of a Model in a Numerical Modeling Software should be Transparent and Structured so That it is Easy to Understand, Document, and Reproduce the Results from a Study. There should be a Clear Path Between Hypothesis, Assumptions, Model Definition and the Results. The Sequence of Operations Displayed in the Software's User Interface Should reflect the Settings that Define the Mathematical Model, Generates the Numerical Solution, Solves the Equations, Displays the Results, and Creates a Report. Join This Presentation to Get a Demonstration of the Workflow in COMSOL Multiphysics and the Application Builder, Which Has Been Designed for Transparency and Structure.

### High-Level Architecture
- **Frost**

### EnSight User Innovation Contest
- **EnSight User Innovation Contest**

### The Dassault Systemes Additive Manufacturing Solution
- **Dassault Systemes Additive Manufacturing Solution**

### A Comprehensive Model for Numerical Optimization of Mechanical Joining Processes
- **N視näürä, M. Raski**

### An Approach for Generating Patient-Specific Exo skeletons: Seamless Process Chain for Biomimetic Lightweight Design Including 3D Scanning, Topology Optimization, Robust Modelling and AM
- **E. Eiken, L. Spolder**

### The Dassault Systemes Additive Manufacturing Solution
- **C. Pedersen, R. Mitchell**
In today’s complex product landscape, simulation is happening both earlier and later in the product lifecycle. The next generation of products requires simulation management to look beyond the traditional design process. Connected products enable simulations throughout its lifecycle.

By exploring this talk, you will understand the following:

- The Foundation of an Effective Product Development Process: Integration, Simulation Process Automation and Data Management, Optimization and Data Intelligence
- Building a Foundation for Through Lifecycle Simulation Data Management with an Integrated PLM Platform
- The authors will provide an overview of needed basics as well as integrating technologies and numerical methods.
- How to achieve predictive when used in virtual development. The authors will provide an overview of needed basics with regard to geometric representation, modeling of materials as well as joining techniques and numerical methods.
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<td>Vehicle Glasses De-icing Assessments and Optimization Study</td>
<td>B. Celikten, S. Eroglu (Ford Otosan, TUR)</td>
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<td>Automated and Adaptive Numerical Analyses of Operating Maps Applied to a Radial Turbo Compressor</td>
<td>M. Wagner (Dynardo, GER); J. Enzinger (Arova Germany, GER); O. Viele (CIndices Software &amp; Engineering, GER)</td>
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<td>Towards a Better Cooling Passage Design of a High Pressure Turbine Blade</td>
<td>J. Iwakura (Dassault Systems Deutschland, GER); T.J. Martin (United Technologies, USA)</td>
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<td>6H Dynamics &amp; Testing 3</td>
<td>Further Study of Vibration Stability in Diamond Light Source</td>
<td>H. Huang (Diamond Light Source, GBR)</td>
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<td>Combining Numerical and Experimental Models for Virtual Prediction of Spacecraft Vibration Test</td>
<td>S. Menzato (Siemens Industry Software, BEL)</td>
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<td>Static and Dynamic Analysis of a Rod-Fastened Rotor</td>
<td>N. Wagner, R. Helfrich (Intex, GER)</td>
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<td>Non-Linear Dynamic Analysis: Case Studies</td>
<td>L. Caso, A. De Luca, A. Ashri, J. Sibari (Thomson Tomasetti, USA)</td>
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<td>Creating Accurate Surrogate and/or Accelerated Loads for Known Models or Structural Systems Types</td>
<td>N. Bishop (CAEChemical, GBR); P. Murthy (CAEChemical, FRA); R. Kumar-Morale (CAEValue, SWE)</td>
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<td>6J Business issues / Emerging issues</td>
<td>Measuring the Business Impact of HPC for Engineering Research and Development</td>
<td>A. Jones (NAG, GBR)</td>
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<td>Increase ROI of Your Engineering Applications With Software Metering</td>
<td>S. Staalesen (Open IT, Inc., USA)</td>
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<td>Deep Learning for CAE Automation</td>
<td>S. Stavetskiy, S. Szesmek M. Bose, A. Meyer, V. Herzog (Kartfrute Institute of Technology, GER)</td>
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<td>Applying Artificial Intelligence to Product Design and Engineering</td>
<td>P. Chow, S. Georgescu (Fujitsu Laboratories of Europe, GBR)</td>
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<td>IoT-Based Predictive Maintenance with Digital Twins Using Engineering Simulations</td>
<td>P. Hakkemaa, P. Chamaras (EDF Medeco, NOR); M. Gustafsson (EDF Medeco, SWE)</td>
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Conference agenda subject to alterations.
7F Systems Modelling & Simulation
Standardized Integration of Real-Time Systems into Simulation Environments
M. Kramer, N. Marks, M. Benediti (Virtual Vehicle, AUT); T. Bischoetz (ESI TI, GER); L. Lichtenstein (TWI, GER)
System Modelling and Simulation of the ESA a Direct Space Debris Removal Mission
S. Estale, T. Granger, T. Zochville, N. Brauer, T. Lischow (Airbus Defence & Space, GER); J. Tischkowitz (Phoenix Integration, Fra); S. Giannes (RHEA Group, NED); H. Konig (EADS, NED)
Train Switch Point Machine Simulator (RSPMData) for Simulation of Drivers and Installations Operation and Maintenance
S. Brossch, M. Schulte (Siemens, GER); L. Salam (INSA Toulouse, FRA)
Understanding and Enabling the Simulation Revolution
J. Wahl (institute, SIMI, IKV,
Towards Model-Based Design of Aircraft Systems
M. Seelmann, J. Arendsewes (Sodell, GER)
8F Model Based Systems Engineering
MBSE Approach Adopted to Vehicle Energy Consumption Optimization
C. Yang, P. Aimazzad, J. Poppas, O. Cospin (Valeo, FRA); P. Chevre, O. Callet (Ecole Centrale de Nantes, FRA)
Integrating Multi-Disciplinary Optimization into the Product Development Process Using Model-Based Systems Engineering (MBSE)
M. Toremam, A. Haggland, T. Rosca, E. Drieh (Volvo Cars, SWE)
Modelling-Based Systems Engineering and Simulation for Automotive Systems Development at GKN Driveline
S. Heine, M. Ricks, M. Engemann, S. Huang (sem engineering methods, GER)
Functional Modelling of High Lift Systems
S. Hens, G. Hardwick, I. Pamela (UTC Aerospace Systems, GBR)
Agi1e Model Based Systems Engineering
M. Perl, R. Frolich, V. Fällser, S. Staudacher, M. Ditze, K. Kufeta, C. König (TWI, GER)
IG Free Session
IG Multi-Purpose Simulation
Manufacturers event: simulating, testing and conforming for automotive and aerospace industry
H. Schlüer, E. Diez, B. Meuler, J. M. Bocquet (VDA, Fra); H. Klee (EADS, NED); K. Turo (Daimler, GER)
Stockholm Waterfront Congress Centre

Stockholm Waterfront Congress Centre is Sweden’s newest and most versatile venue for large-scale meetings and events. Located in the heart of Stockholm, across the water from the City Hall, the modern architecture is a spectacular addition to the city skyline. Located between the Central Railway Station and the City Hall – host to the annual Nobel prize dinner – providing easy access to some of the best shops, restaurants and sights in Stockholm. Directly connected to the congress centre is the Radisson Blu Waterfront Hotel, a 414 room international first class hotel. The railway station and the Arlanda Express train platform are easily accessible by escalator right next to the congress centre.

There are also plenty of other hotels, of different categories available in Stockholm. You can check alternatives using search engines like Trivago, Kayak or others, to find the best suited hotel for your stay in Stockholm.

nafems.org/congress/venue
As well as an excellent technical program, the NAFEMS World Congress has become renowned for its gala dinner, and 2017 will be no different!

Being held at The Vasa Museum, home of the only preserved seventeenth-century ship in the world, and a unique art treasure, you can be sure that this will be an evening to remember. More than 95 percent of the ship is original, and it is decorated with hundreds of carved sculptures.

The 69 meter-long warship Vasa sank on its maiden voyage in the middle of Stockholm in 1628, and was salvaged 333 years later in 1961. For nearly half a century the ship has been slowly, deliberately and painstakingly restored to a state approaching its original glory. The three masts on the roof outside the specially built museum show the height of the ship’s original masts. Today the Vasa Museum is the most visited museum in Scandinavia, with over one million visitors a year.

nafems.org/vasa
Register

Alternatively, you can register online by visiting nafems.org/congress

Contact Name to whom all correspondence will be sent (BLOCK CAPITALS PLEASE)

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<thead>
<tr>
<th>Title</th>
<th>Family Name</th>
<th>First Name</th>
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### Congress Fees

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All fees + 25% local Swedish VAT.
For questions regarding VAT refund please contact the tax authorities in your country.

Your registration covers:

- Attendance at both the World Congress & SPDM Conference
- Invitation to the opening cocktail reception
- Access to a number of NAFEMS Accredited Training Courses during the congress (this does not apply to post-congress courses)
- Access to all workshops and tracks in both the World Congress and SPDM Conference
- Access to the extensive exhibition areas for both events
- Lunches and refreshments over the three days of the event
- Attendance at the exclusive Congress Gala Dinner
- One set of proceedings, including conference papers on USB, as well as other delegate materials