

Now online!!!
Free of charge for ALL STAFF from NAFEMS member companies (no seminar credits needed)!



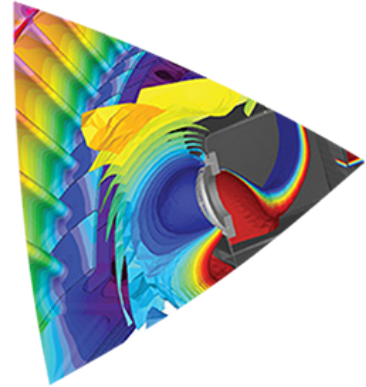
The International Association for the Engineering Modelling, Analysis and Simulation Community

Invitation and preliminary virtual conference agenda

NAFEMS20

NORDIC VIRTUAL CONFERENCE

The Conference for Engineering Simulation and Analysis



November 16th-17th, Online

- Plenary presentations by Tetra Pak, Technical University of Denmark, VMAP project
- 29 technical presentations
- Virtual hardware and software exhibition
- For members and non-members

NAFEMS, the independent international association for the engineering modelling, analysis and simulation community, is holding its Nordic virtual conference from 16 - 17 November 2020. This two-day conference will focus on existing best practices as well as state-of-the-art in FEA, CFD and associated technologies – ensuring delegates receive a fully comprehensive overview of the technology available to them.

The conference will increase awareness for topics that are vital to engineering industrialists and academics, offering attendees an unrivalled combination of industrial knowledge, expertise and forward-thinking to aid their deployment of CAE over the next few years.

The conference welcomes participation from every type of organisation – large and small, across all industry sectors. It is open to both, members and non-members of NAFEMS, with ALL staff from NAFEMS member companies are able to attend the event for free (without using seminar credits), as part of their membership benefits package.

We are looking forward to welcome you virtually.

NAFEMS Nordic Steering Committee

www.nafems.org/nordic20

Sponsors



09:15 **Welcome and Introduction**
NAFEMS Nordic

Session 1 – Keynotes

09:30 **Modelling & Simulation @ Tetra Pak, Our Strategy Towards an End to End Capability**
L. Carlioz (Tetra Pak)

10:00 **What are the Chances of the Ship Snapping? Considerations when using Probabilistic Analysis**
NAFEMS Stochastics Working Group (more details on page 4)

10:30 **VMAP Enabling Interoperability in Integrated CAE Simulation Workflows**
K. Wolf, P. Gulati (Fraunhofer SCAI); G. Duffett (NAFEMS)

11:00 **Platinum Sponsor Presentation: Driving Innovation with Azure HPC**
N. Chappell, G. Sallah, L. Miroslaw, A. Chrysostomou (Microsoft)

11:30 Break

Session 2A – Methods 1

Session 2B – Silver Sponsors

12:00 **The Global Finite Element Model for the Saab JAS 39 Gripen E/F**
A. Drego, L. Djärv, K. Jennsjö (Saab Group)

12:00 **Altair Engineering**

12:30 **FEA of Thread Loads in a Connecting Rod Bolt**
S. Haugland, R. Grant, K. Froysa (Western Norway University of Applied Sciences); R. Nordrik (Rolls Royce)

12:15 **BETA CAE Systems**

12:30 **Hexagon - MSC Software**

13:00 **Investigation of Standardization Practices for a Responsible Use of Computational Models in Engineering (SPRUCE)**
F. Santandrea (RISE Research Institutes of Sweden), M. Eriksson (Validus Engineering); P. Jacobsson, T. Virdung (Volvo Cars); R. Lillbacka (FS Dynamics)

12:45 **Dassault Systèmes Simulia**

13:30 **Comparison of Different Assessment Methods of Weld Seams Applied to Automotive Suspension Components**
M. Frank, H. Dannbauer, D. Hofmann, K. Hofwimmer, W. Hübsch (Magna PT Engineering Center Steyr)

14:00 Break

Session 3A – Materials 1

Session 3B – CFD

14:30 **Development of a Simulation Process Chain for Virtual Testing of Self-Piercing Riveting Joints with Focus on Material Damage & Failure Modelling**
A. Rusia (Mercedes Benz/ University of Stuttgart); S. Weihe (University of Stuttgart)

Comparison of CFD Modeling of Airflow in a Subway Station and on Site Experimental Measurements
L. Faugier (Royal Military Academy/von Karman Institute for Fluid Dynamics/ University of La Rochelle), J. Vercauteren, B.G. Marinus, W. Bosschaerts (Royal Military Academy); D. Laboureur (von Karman Institute for Fluid Dynamics); K. Limam (University of La Rochelle)

15:00 **Probabilistic Fatigue and Reliability Simulation**
A. Halfpenny, A. Chabod (HBM Prenscia); M. Bonato (Valeo Thermal Systems)

Drag Coefficient of Cylindrical Structures Oscillating in Confined Fluidic Environments
R. Zarshat (Expro North Sea)

15:30 **FE-Studies on Thermoplastic Generative Designed Parts as Functional Prototypes**
F. Althammer (Daimler/ University of Stuttgart); K. Chouhan (Daimler/ RWTH Aachen University); P. Middendorf (University of Stuttgart)

Increasing Product Reliability with Reduced Order Models
J. Parry (Mentor, A Siemens Business)

16:00 **Methodology to Evaluate Elastomeric Response for Well Completion Systems**
W. Chen, S. Rothnie (Rubbaratkins)

Winner of the NAFEMS NORDIC Student Award 2019/2020: Analysis of the Flow of Secondary Steam through a Reheater using 3D CFD
I. Lindell (KTH)

16:30 End of day 1

Session 4 – Optimization / Methods 2

- 09:00 **Maximizing Eigenfrequencies of PCB**
R. Helfrich (Intes)
- 09:30 **Topology Optimization – Not Just a Structural Mechanics Thing**
B. Bragée, K. E. Jensen (Comsol)
- 10:00 **Machine Learning: A Strong Ally in the CT-Scan to FE-Model Journey**
E. Baksiova (BETA CAE Systems)
- 10:30 **Time – the Most Limiting Boundary Condition of them all**
U. Khode (Altair)
- 11:00 Break

Session 5 – Materials 2

- 11:30 **Workflow for Modeling Fiber-Reinforced Plastics (FRPs) with Multiscale Material Models**
J. Granlund, Y. Shi, H. Ji, P. Verma, W.-Jun H (Dassault Systèmes)
- 12:00 **From High Fidelity Models for Crash of Composites to a USER-Friendly Interface**
S. Costa, F. Stig, R. Olsson (RISE Research Institutes of Sweden)
- 12:30 **Material Models and Crash Simulation**
S. Shankar Rao Viswanath, M. Sudarshan Rao (Chalmer University of Technology)
- 13:00 Break

Session 6 – Integration / Automation

- 13:30 **The Role of Simulation Maturity on Simulation Driven Development Success**
M. Oledal (EDRMedeso)
- 14:00 **Expanding the Capabilities of Post-Processor Databases**
G. Skouvaklis (BETA CAE Systems)
- 14:30 **Recognition of Structural Members Breaks the Boundaries of General FEA Programs and Enables Automatic Verification According to Standards**
O. Ishchuk (SDC Verifier)
- 15:00 Break

Session 7 – Methods 3

- 15:30 **Lubrication and Cooling Efficiency Analysis of Transmissions and Engines by Moving Particle Simulation**
R. Skoglund (Pdsvision CAE)
- 16:00 **Deep-Learning: A Shortcut for the CAD-Simulation-Postprocessing Chain**
T. von Tschammer, L. Zampieri, A. Shevchenko, P. Baqué (Neural Concept)
- 16:30 End of Conference

Virtual exhibitors

Altair	FEMFAT by Magna Powertrain	Intes	Mentor, A Siemens Business
BETA CAE Systems	HBM Prencia	ITEA3 VMAP Project	NAFEMS
Dassault Systèmes	Hexagon - MSC Software	Microsoft	

If you are interested in participating as an exhibitor or sponsor, you can find an information brochure at www.nafems.org/nordic20. We would also be glad to advise you personally - call us at +49 176 217 984 01.

Presentation:

What are the Chances of the Ship Snapping?

Considerations when using Probabilistic Analysis

NAFEMS Stochastics Working Group

In the BenchMark magazine issue April 2019 two challenge problems designed as example applications of probabilistic analysis were presented. Both problems shared a common background in the field of naval engineering, although they differed for the level of complexity in the probabilistic formulations. The first one involved the derivation of failure probability from two input factors modelled as normal distributions and it was amenable to an analytical (theoretical) solution. In the second one the design variables were modelled by different types of probability distribution (normal, uniform and lognormal), and therefore an exact solution was not available. At the NAFEMS World Congress 2019 these problems were discussed and a few solutions presented. In this presentation these solutions and additional ones are discussed in combination with the theoretical background and the pitfalls of these methods.

Venue

The conference will be online. About a week before the start of the conference, we will send you login information for the conference online platform. You have to register there - once registered, you have access to the conference and all presentations. If you log in again, you only have to enter your provided email address under „Already registered“. In order to find presentations quickly and easily, we will provide filters and search tools.

Conference registration

Please register online at www.nafems.org/nordic20

Conference language

English

Delegate fee (per person)

- NAFEMS members:
All staff from NAFEMS member companies attend for free (without using seminar credits)
 - Not-NAFEMS members: 300 Euro
 - Presenter from industry¹⁾: free
- All costs plus VAT if applicable

These fees include attendance at the conference,

¹⁾ Companies for the production/processing of material goods / goods in factories/plants.

NAFEMS membership fee for companies/institutes

A standard NAFEMS site membership costs 1.200 Euro per year. An academic site membership costs 750 Euro per Jahr. Please consider becoming NAFEMS member before registering!

Cancellation policy

Cancellation before the event date:

- up to 3 weeks: free
- up to 1 week: 75% of registration fee non-refundable;
- less than 1 week and no show: 100% of registration fee non-refundable

Hardware and software exhibition / sponsoring

We would like to extend an invitation to your company to be part of the conference as exhibitor and/or sponsor. Please request further information or download the exhibition and sponsorship opportunity brochure (pdf) at www.nafems.org/nordic20.

NAFEMS NORDIC Steering Committee members

- A. Johansson (Altair Engineering, SWE)
- M. Hermodsson (Corebon, SWE)
- J. Granlund (Dassault Systemes, SWE)
- L. Pilgaard Mikkelsen (DTU, DEN)
- M. Redhe (DYNAmore Nordic, SWE)
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Conference organization

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www.nafems.org

Conference website:

www.nafems.org/nordic20

NAFEMS20

REGIONAL CONFERENCES



www.nafems.org/2020

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