NWC25

NAFEMS WORLD CONGRESS

19-22 MAY 2025 | SALZBURG | AUSTRIA

A WORLD OF ENGINEERING SIMULATION

Preliminary Agenda

Correct at May 13th 2025 - all times and dates are subject to change. Please do not base travel plans on these times and dates.

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DASSAULT SYSTEMES

Ever dreamt of interacting with your simulations in an immersive 3D environment? Join our modeling and simulation experts at the Dassault Systèmes booth to experience our VR immersive experiences exploring virtual twin experiences of a clean room semiconductor factory and an urban transformation simulation. See you there!

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Exhibitors

The NWC25 exhibition is at the heart of the Congress. Here, you will find all lunch and coffee breaks, and have the chance to talk to the leading solution providers in the simulation world. Thank you to all our exhibitors for their support - please make sure to visit their stands and talk about your simulation needs.

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Congress at a glance

Monday 19th May

08:30 **Registration opens**

09:30 - 11:00

A **Short Training Course** | AI for Simulation Engineers
B **Short Training Course** | How to Implement a Simulation Strategy
C **Workshop** | Key Factors for Effective Engineering Virtualization
D **Short Training Course** | Fundamentals of MultiBody Dynamics Simulation
E **Short Training Course** | Polymer Testing for Solid Mechanics FE Simulation
F **Short Training Course** | 10 Steps to Successful Explicit Dynamic Analysis
G **Short Training Course** | Introduction to Multiphysics
H **Workshop** | Improving how we Teach FEA
J **Workshop** | Learn about NAFEMS Technical Working Groups

11:30 - 13:00

A **Short Training Course** | An Introduction to Verification, Validation and Uncertainty Quantification (VVUQ) in Engineering Simulation
B **Workshop** | Unlocking your Organisations Simulation Capability through Maturity Assessment
C **Workshop** | Arena2036 Workshop: DigiTain/TEF AI Matters
D **Short Training Course** | Debugging Finite Element Models - A Systematic Methodology for Finite Element Model Debugging
E **Workshop** | The New AIAA Standard For Code Verification Of CFD, The Importance Of The Observed Order Of Accuracy, And Exemplars To Show The Process
F **Short Training Course** | Practical Introduction to Non-Linear Finite Element Analysis (FEA)
G **Short Training Course** | Getting Started with Smoothed Particle Hydrodynamics
H **Workshop** | Is Engineering an Art or a Procedure
J **Workshop** | An Open Multiphysics Working Group Meeting – Everybody is Welcome

14:00 **Welcome & Introduction**
14:15 **Keynote: Sustainable Skies: How Simulation Drives Thin-Wing Technology Studies on the X-66 Concept**
Jack Castro | Technical Fellow | The Boeing Company
14:45 **Sponsor Presentaion: Platinum sponsor presentation by Dassault Systèmes**
Gregory Judex | Dassault Systèmes
15:00 **Keynote: Simulation as a Design Guiding Tool: Re-examining the Role of the Simulation Engineer**
Karlo Seleš | Senior Mechanical Integrity Engineer | Rimac Technology
15:30 **Invited Presentaion: ASSESS - Analysis, Simulation & Systems Engineering Software Strategies**
Nick Appleyard | NAFEMS
15:45 **Invited Presentaion: What's the Endgame for Engineering Simulation?**
Jan Paul Stein & Alessandro Faure Ragani | McKinsey & Company

SESSION 1

17:00 - 18:25

1A Simulation Supporting Certification
1B LLMs in CAE
1C Computational Structural Mechanics
1D Integration of Analysis & Test
1E Impact, Shock & Crash
1F AI Augmented MPS
1G Automotive
1H Interoperability
1J GPU Accelerated Simulation

18:30 **Get Together in the Exhibition Area**

Tuesday 20th May

07:30 **Registration opens**
08:30 **Welcome**
08:35 **Keynote: How Simulation is Driving Innovation, Sustainability and Consumer- centric Design in the Consumer Goods and Healthcare Industries**
Tyler London | Senior Product Manager: Modelling, Simulation & Visualisation | Reckitt
09:05 **Keynote: Accelerating the Green Energy Revolution through Nano-to-Megawatt Scale Models**
Harri Koivisto | Head of Modelling and Digitalisation | Ceres Power

SESSION 2

10:20 - 11:45

2A Business Impact
2B AI Assisted Optimisatation
2C Assessing Welded Structures
2D Digital Twins 1
2E Acoustic Simulation
2F Additive Manufacturing 1
2G Battery Design 1
2H Simulation Data Management 1
2J Cloud Computing

SESSION 3

15:00 - 16:25

3A Verification & Validation
3B AI Enabled Assisted Workflows
3C Reduced Order Modelling 1
3D Digital Engineering
3E NVH
3F Composites 1
3G Electric Vehicles
3H Connecting SDM and PDM/PLM
3J HPC

SPONSOR SESSION

13:00 - 14:25

A Dassault Systèmes
B Altair / 4a engineering
C Esteco / Cadfem-Ansys
D Siemens Digital Industries Software
E Hexagon
F Rescale
G RecurDyn / Viridien
H Qarnot
J Ricos

SESSION 4

17:00 - 18:25

4A AI/ML Governance
4B AI Enabled Automation
4C Simulating the Welding Process
4D Digital Twins 2
4E Dynamics & Vibration
4F Additive Manufacturing 2
4G Multiphysics 1
4H Simulation Data Management 2
4J Workshop | ASSESS - Plans for 2025

19:00 **Zistelalm Dinner**
19:45 **Mozart Concert**

Wednesday 21st May

07:30 **Registration opens**
08:30 **Welcome**
08:35 **Keynote: Make Healthcare Better with Computational Modeling and Simulation**
Cheryl Liu | Director, Computer Modeling & Simulation | Stryker
09:05 **Keynote: A Central Hub for Data Management and Process Automation – Ready for Virtual Certification**
Frank Bauer | Group Leader Virtualization Passive Safety | BMW Group

SESSION 5

10:30 - 11:55
5A Simulation Governance
5B AI Supported Postprocessing
5C Fatigue 1
5D Sponsor | Dassault Systèmes
5E Optimisation 1
5F MPS - Injection Moulding
5G Battery Design 2
5H Democratisation
5J Workshop | Standardisation for Manufacturing Process Simulation

SESSION 6

13:10 -14:35
6A Solvers & Methods
6B Data Based Modelling
6C Fatigue 2
6D System Level Simulation
6E Discrete Element Method
6F MPS - Metals
6G Cosimulation
6H Automated Workflows
6J Short Training Course | All You Need to Know about Design Optimisation (almost)

SESSION 7

15:20-16:45
7A Probabilistic Methods
7B Topology Optimisation
7C Joints & Connections
7D Reduced Order Modelling 2
7E Workshop | Speaking of Simulation Live – Machine Learning
7F Materials 1
7G CFD Supporting Design
7H Computational Electromagnetics
7J Short Training Course | German FKM Guidelines – An Introduction

SESSION 8

17:20 - 18:45
8A Uncertainty Quantification
8B CAE in the Design Process
8C Contact & Adhesives
8D Systems Engineering
8E Optimisation 2
8F Material Characterisation
8G Multiphysics 2
8H Electronics

19:00 **Steering Committee & Working Group Reception (1st floor)**
20:00 **Gala Dinner in Salzburg Congress**

Thursday 21st May

08:00 **Registration opens**

SESSION 9

09:00- 10:25
9A Generative Design
9B Buckling
9C CFD Methods
9D Aero Optimisation
9E Materials 2
9F Multiscale
9G VMAP
9H Simulation Enabling the Hydrogen Economy
9J Workshop | How to Model What We Don't Know: Probabilistic Foundations of Uncertainty Quantification and Machine Learning

SESSION 10

11:10 - 12:35
10A Sim. Governance - Supp. Certification
10B Data Analysis/Postprocessing/Visualisation
10C Computational Fluid Dynamics
10D Multibody Simulation
10E Composites 2
10F Code Coupling
10G Upfront Simulation
10H Civil Engineering
10J Workshop | PSE (Professional Simulation Engineer) Certification

13:30 **NWC25 Awards**
13:45 **Keynote: Are We Ready for Foundational Models?** Astrid Walle | Data Science and Simulation Expert | Siemens Energy
14:15 **Panel Discussion:** Will AI Together with SDM Change the Future of Engineering Methods?
15:00 **Closing Remarks & Farewell**

08:00	Registration Opens	Registration Opens	Registration Opens	Registration Opens
09:30	**A | Short Training Course** AI for Simulation Engineers Max Kassera | yasAI	**B | Short Training Course** How to Implement a Simulation Strategy Andy Richardson | Phronesim	**C | Workshop** Key Factors for Effective Engineering Virtualization Bernd Fachbach | Fachbach-Consulting	**D | Short Training Course** Fundamentals of MultiBody Dynamics Simulation Patrick Morelle | Consultant
	Break	Break	Break	Break
11:00	**A | Short Training Course**	**B | Short Training Course**	**C | Workshop**	**D | Short Training Course**
11:30	An Introduction to Verification, Validation and Uncertainty Quantification (VVUQ) in Engineering Simulation Jean-Francois Imbert | NAFEMS Technical Fellow	Unlocking your Organisations Simulation Capability through Maturity Assessment Andy Richardson | Phronesim	Arena2036 Workshop: DigiTain/TEF AI Matters Muhammad Saeed | Arena2036	Debugging Finite Element Models - A Systematic Methodology for Finite Element Model Debugging Patrick Morelle | Consultant
13:00	Lunch	Lunch	Lunch	Lunch
14:00	**Welcome & Introduction**			
14:15	**Keynote:** Sustainable Skies: Sustainable Skies: How Simulation Drives Thin-Wing Technology Studies on the X-66 Concept Jack Castro | Boeing			
14:45	**Sponsor Presentation:** Platinum sponsor presentation by Dassault Systèmes Gregor Judex | Dassault Systemes			
15:00	**Keynote:** Simulation as a Design Guiding Tool: Re-examining the Role of the Simulation Engineer Karlo Seles | Rimac Technology			
15:30	**Invited Presentation:** ASSESS - Analysis, Simulation & Systems Engineering Software Strategies Nick Appleyard | NAFEMS			
15:45	**Invited Presentation:** What's the Endgame for Engineering Simulation? Jan Paul Stein & Alessandro Faure Ragani | McKinsey & Company			
16:15	Break	Break	Break	Break
17:00	**1A | Simulation Supporting Certification**	**1B | LLMs in CAE**	**1C | Computational Structural Mechanics**	**1D | Integration of Analysis & Test**
17:05	Verification & Validation of CFD and Fluid-structure-interaction Simulation for Digital Certification of an Aircraft Wing Christian Heinrich | Boeing	Findings From 6 Years of Applied Research: A Foundation for AI Use Cases - Illustrated with Two Practical Examples Christopher Woll | GNS Systems	Strength Analytical Methods Revisited, Focus on Plastic Bending Milan Tasic | Airbus Operations	Full Scale Validation Testing for Legacy Aircraft Finite Element Models David Wieland | Southwest Research Institute
17:25	Enabling Model-Based Aircraft Certification Stephen Cook | Northrop Grumman	CFD Workflow Automation with Generative AI and Specialized Approaches for Storing and Querying Data Maria Bonner | Siemens	A Study on the Minimization of Braking Pull in the Early Design Stage of Leafspring Suspension by the Simulations of Leaf Spring 2D and Modelica Model Jung Hun Choi | Hyundai	Building Simulation Models Credibility: What Gain can we Expect from Test-simulation Data Fusion in Solid Mechanics? Florent Mathieu | EikoSim
17:45	Certification by Analysis: A Selection of Case Studies Fabio Santandrea | Volvo	Back to Basics for CAE: Demystifying Input Files for and with Generative AI Subham Sett | Hexagon	Numerical and Experimental Analysis of High-Stress Wire Connections in Offshore Fish Farming Cages for Site-specific Lifetime Prediction Jörg Straub | Institute for Material Systems Technology Thurgau - WITG	Bridging Theory and Practice: Gage Correlation and Load Case Development Randy Bailey | DJH Engineering Center
18:05	Fatigue Analysis of Floating Offshore Wind Structures Oleg Ishchuk | SDC Verifier			Twins, Pyramids and Environments: Unifying Approaches to Virtual Testing Louise Wright | National Physical Laboratory
18:25	**End of Presentations**			
18:30	**Get Together in the Exhibition Area**			
21:00	**End of Day 1**			

P
PLENARY

Monday 19th 08:00 - 21.00

Registration Opens

E | Short Training Course

Polymer Testing for Solid Mechanics FE Simulation
Sean Teller | Veryst Engineering

Break

E | Short Training Course

The New AIAA Standard For Code Verification Of CFD
Steve Howell | Abercus

Lunch

Break

1E | Impact, Shock & Crash

Innovative Front-end Structure Concepts for Improved Crash Compatibility
Wolfgang Wagner | Virtual Vehicle Research

Evendetection - Automatic Detection of Anomalies for Time History Curves in Crash Simulations
Dominik Borsotto | Sidact

Domain Knowledge-Guided Machine Learning for Enhanced Crash Dynamics Prediction
Niranjan Ballal | Fraunhofer SCAI

Shortening Airbag Model Validation Time using Reduced Order Modelling
Alain Tramecon | ESI Group

Registration Opens

F | Short Training Course

10 Steps to Successful Explicit Dynamic Analysis
Gino Duffett | NAFEMS

Break

F | Short Training Course

Practical Introduction to Non-Linear Finite Element Analysis (FEA)
Gino Duffett | NAFEMS

Lunch

Break

1F | AI Augmented MPS

Simulation-Assisted AI Modeling for Glass Quality Prediction
Arnab Ghosh | CelSian Glass Solar

Measure, Digitise, Execute: Streamlining Sustainable Packaging Design
Ross Blair | Blow Moulding Technologies

Data Based Manufacturing Simulation
Christoph Angermann | Scherdel Siment

Accelerating Sheet Metal Forming with AI
Eunju Park | GNS Systems

Registration Opens

G | Short Training Course

Introduction to Multiphysics
Jozsef Nagy | eulerian-solutions

Break

G | Short Training Course

Getting Started with Smoothed Particle Hydrodynamics
Laurence Marks | Consultant

Lunch

Break

1G | Automotive

Efficient Joining Failure Assessment of Multi-material Car Bodies in Crash
Tony Porsch | Volkswagen

Contribution of the Virtual Validation in the Development of a 48V Electric Powertrain for 2-wheeler Applications
Riccardo Testi | Piaggio

Accelerated Headlight Defrost using Modelling and Simulation
Svetlana Jeronimo | Dassault Systèmes

Automotive Closures Optimization Employing Machine Learning
Konstantinos Rachoutis | BETA CAE Systems

Registration Opens

H | Short Training Course

Improving how we Teach FEA
Łukasz Skotny | Enterfea

Break

H | Short Training Course

Is Engineering an Art or a Procedure
Łukasz Skotny | Enterfea

Lunch

Break

1H | Interoperability

Achieving Digital Continuity Across Multiple PLM And SPDM Environments For Automated System-Level Design Optimization
Marco Turchetto | Esteco SA

Simulation-based Multi-organization Engineering: Specification Application
Romain Barbedienne | IRT SystemX

Implementation of a Digital Twin for Wire Arc Additive Manufacture
Jinjiang Li | University of Manchester

Registration Opens

J | Workshop

Learn about NAFEMS Working Groups

Break

J | Short Training Course

An Open Multiphysics Working Group Meeting – Everybody is Welcome
Alfred Svobodnik | Mvoid Group

Lunch

Break

1J | GPU Accelerated Simulation

GPU-accelerated Mesh Adaptation for Structural Analysis
Marcus Stegemann | Fraunhofer IGD

Boundary Interface Caching As A Method To Accelerate Solver Performance For Industrial Sliding Mesh Simulations On GPU
Siddhartha Gautham A V | Siemens

Accelerating Scientific Workflows with Domain-Specific Hardware: GPUs, ARM Chips, and Beyond
Sam Zakrzewski | Rescale

Reducing Time to Market of Differential Systems Using GPU-Accelerated CFD
Felix Pause | dive solutions

07:30	**Registration opens**			
08:30	**Welcome to Day 2**			
08:35	**Keynote:** How Simulation is Driving Innovation, Sustainability and Consumer- centric Design in the Consumer Goods and Healthcare Industries Tyler London | Reckitt Benckiser Health Care			
09:05	**Keynote:** Accelerating the Green Energy Revolution through Nano-to-Megawatt Scale Models Harri Kovisto | Ceres Power Limited			
09:35	Break	Break	Break	Break
10:20	**2A | Business Impact**	**2B | AI Assisted Optimisatation**	**2C | Assessing Welded Structures**	**2D | Digital Twins 1**
10:25	The 7 Practical Actions Organisations Should Take to Achieve their Product & Business Goals with Simulation Andy Richardson | Phronesim	AI-driven Design Optimization of Mechanical Structures in CAx-Processes Chains Libin Mao | Ostfalia Hochschule f. angew. Wissenschaften	Numerical and Experimental Analysis of Random Fatigue of Welded Connections Based on the Dirlik Method Vito Murgida | Hitachi Energy	The Digital Twin of ESAs Large Space Simulator Remko Moeys | ESA/Estec
10:45	Engineering License Optimization: A Key to Maximizing Efficiency and ROI Signe Stenseth | Open iT	Pioneering Virtual Calibration: The Role of AI in Performance Optimization Morgan Jenkins | Secondmind	Stress Concepts for Weld Verification and Approaches to Automation Tim Kirchhoff | ihf Ingenieurgesellschaft	A Hybrid Framework for Defect Detection: Integrating 2D Synthetic data , Point Cloud Analysis and Real-World Image Validation Muhammad Saeed | Arena2036
11:05	Streamlining Development of Customized Machines for Underground Mining with Unified Modeling & Simulation Manuel Morales | Resemin	AI-driven 3D Design of Cables and Hoses Christine Schwarz | Noesis Solutions	Notch Stress Approach for Welds using Superelements Christos Tegos | BETA CAE Systems	Non-linear Real-Time Battery Digital Twins ? Efficient and Explainable Surrogate Modeling Dirk Hartmann | Siemens
11:25	**Invited Presentation:** Driving Digital/MBE Realization in the Airframe Loads and Dynamics Value Stream with a North Star Strategy Jack Castro | Boeing	Thickness optimization of a fuel tank using ML based physics model Anand Pathak | Dassault Systèmes	Automated Weld Assessment Including One-sided Fillet Welds of Large Railway Structures Wolfgang Krach | CAE Simulation & Solutions Maschinenbau Ingenieurdienstleistungen	Performance Aided Design for Certification: Integrating Digital Twin Technology for High-Performance Engineering Michelle Quan | Autodesk
11:45	Lunch	Lunch	Lunch	Lunch
13:00	**Sponsor A | Dassault Systèmes** Platinum Sponsor: Dassault Systèmes MODSIM: The Importance Of Being Unified	**Sponsor B | Altair / 4a engineering** Silver Sponsors: Altair / 4a engineering 13:00 - 13:40 Altair: AI In Design And Engineering: Ready To Deploy 13:45 - 14:25 4a Engineering: The Accurate Representation Of Material Behavior In Finite Element Simulations ...	**Sponsor C | Esteco / Cadfem-Ansys** Silver Sponsors: Esteco / Cadfem-Ansys 13:00 - 13:40 Esteco: Get The Latest Information From Esteco 13:45 - 14:25 Cadfem-Ansys: AI And Simulation In Digital Engineering	**Sponsor D | Siemens Digital Industries Software** Gold Sponsor: Siemens Digital Industries Software • Project Presentation "Sound Of Science": A Digital Twin For Concert Halls, First Developed For The Festspielhaus In Salzburg. • Panel Discussion On The Future Application Of Simulation And Artificial Intelligence: Friend Or Foe?
14:25	Break	Break	Break	Break

PLENARY

Break

2E | Acoustic Simulation

Vibro-acoustic Simulation of Impulsive Feedback from Computer Mice Microswitches
Luca Francesconi | Logitech

Radiation Efficiency Varying Equivalent Radiated Power (revERP)
Kristian Kvist | Grundfos

Development of Road Noise Spatial Sound and Sound Map Implementation Technology Using a New Concept Helmet Microphone Array
Dami Bok | Hyundai

Deep Learning Surrogate Models for Fan Performance and Acoustic Assessment
Svetlana Jeronimo | Dassault Systèmes

Lunch

Sponsor E | Hexagon

Gold Sponsor: Hexagon

AI Meets Engineering:
The Future Is Predictive

Break

Break

2F | Additive Manufacturing 1

Comparison between Incremental Layer Deposition and Material Property Manipulation for the Simulation of Powder Bed Fusion
Anas Yaghi | TWI

The Calibration For DED Process Simulation On Part-scale For Ti6Al4V
Arjan Wiegmink | NLR - Royal Netherlands Aerospace Centre

An Investigation into Using Surrogate Models for Fast Prediction of Results of an AM Process Simulation
George Scarlat | Advanced Structures and Composites Center - The University of Maine

Efficiency Improvement for the Simulation of Metal Additive Manufacturing
Michael Roy | TWI

Lunch

Sponsor F | Rescale

Gold Sponsor: Rescale

- Evolving The Modern Simulation Experience: Orchestrating Compute, Data, And AI For Accelerated Innovation
- Panel Disc.: The Future Of CAE Workflow As Told By Industry Innovators - G. Oates (Rimac Technology); N. Beheshti (Intelligent Energy); M. Chung (Subsea7)

Break

Break

2G | Battery Design 1

Modelling the Structural Durability and Reliability of Electric Vehicle Batteries
Stephan Vervoort | Hottinger Brüel & Kjaer

Optimization of Battery Module Production and Performance through CFD-Based Simulations
Carsten Schmalhorst | AVL Deutschland

Conceptual Closed-loop Design of Fuel Cell Vehicle Powertrains Leveraging Reinforcement Learning
Johan Vanhuyse | Siemens

Development of a Validated Simulation Model for All-Solid-State Batteries
Maximilian Luczak | Math2Market

Lunch

Sponsor G | RecurDyn / Viridien

Silver Sponsors: RecurDyn / Viridien

13:00 - 13:40 RecurDyn: Discover RecurDyn: Multiphysics Solutions For Assemblies In Motion

13:45 - 14:25 Viridien: Tell Me Something Guys, Are You Happy In This Cloud-Based World?

Break

Break

2H | Simulation Data Management 1

Simulation Data Management ? Enabler for Credible Digital Twin
Alexander Mahl | PDTec

AI in Engineering: Challenges and Successful Integration with Product Development Process
Marc Vidal | Cadfem

A Web-based Framework for Efficient Sharing of Simulation and Test Data
Marianthi Dimoliani | BETA CAE Systems

Implementation of a simulation and process data management system: How can this increase efficiency? What challenges arise and how can they be overcome?
Christopher Woll | GNS Systems

Lunch

Sponsor H | Qarnot

Silver Sponsors: Qarnot

13:00 - 13:40 Qarnot: Get The Latest Information From Qarnot

Break

Break

2J | Cloud Computing

Challenges and Opportunities in Cloud-Based Simulation - An Engineers Perspective
James Imrie | Rescale

Modernizing CAE Applications: Migrating Legacy Desktop Solutions to Web-Based Platforms
Andres Rodriguez-Villa | Tech Soft 3D

Scaling Beyond Traditional Boundaries of Simulation World with Cloud Computing
Michael Schlenkrich | Hexagon

Safeguarding Engineering IP in the Cloud: Strategies for Secure Global Collaboration
Navin Bagga | Rescale

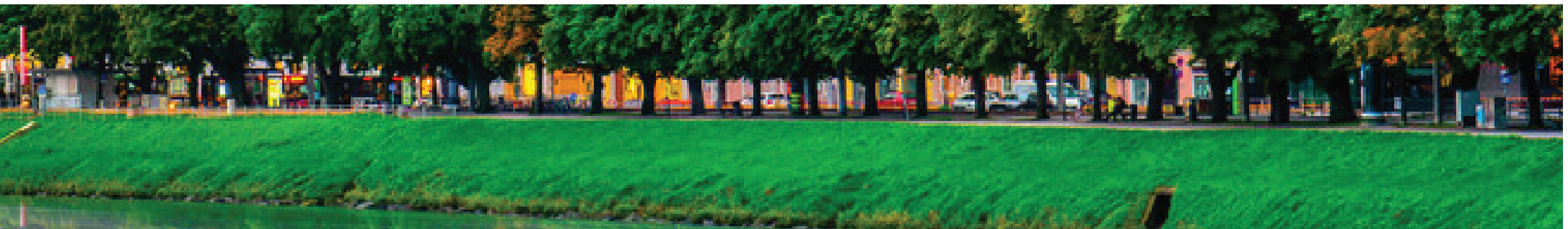
Lunch

Sponsor J | Ricos

Gold Sponsor: Ricos

Get The Latest Information From Ricos!

Break



	3A | Verification & Validation	3B | AI Enabled Assisted Workflows	3C | Reduced Order Modelling 1	3D | Digital Engineering
15:00				
15:05	Guidelines for Validation of Engineering Simulations. A new NAFEMS Publication Jean-Francois Imbert | NAFEMS Technical Fellow	Graph Neural Networks for Semantic Feature Identificaton Tim Newman | National Composites Centre	Machine Learning based Surrogate FEA Modelling Oliver Found | TWI	Simulation Eco System For Effective Virtual Development Bernd Fachbach | Fachbach-Consulting
15:25	Use of Documented Practices in Simulation Verification and Validation Gregory Westwater | Fisher Controls International	Advanced AI driven Exploration Possibilities to Link Model Changes and Effects Daniela Steffes-lai | Fraunhofer SCAI	Predicting Flow and Settling of Falling Particles Ceyhun Sahin | Noesis Solutions	Towards Sustainable Engineering: The Link between Model Credibility and Risk Factors Joao Gregorio | National Physical Laboratory
15:45	The Path to Virtual Product & Uncertainty Quantification of Test and Simulation Results Frank Günther | Knorr-Bremse	Empowering Organizations with Engineering Intelligence to Revolutionize Product Development Paul McGrath | Neural Concept	Integrating Reduced Model Handling in an SPDM Environment Konstantinos Anagnostopoulos | BETA CAE Systems .	Unlock the Full Potential of Technology Data Management - A Central Part in Product Lifecycle Hary Krappe | PDTec
16:05	Real Validation Case Study: Using CFD To Predict Mixing In A Large LNG Storage Tank To Prevent Rollover Steve Howell | Abercus	Methods and Applications of Image and Sound Processing in Engineering Kambiz Kayvantash | Hexagon	AI Sustainability in Engineering Design Optimization: A Guided Process for RSM and ROM Training and Evaluation Danilo Di Stefano | Esteco	
16:25	Break	Break	Break	Break
17:00	**4A | AI/ML Governance**	**4B | AI Enabled Automation**	**4C | Simulating the Welding Process**	**4D | Digital Twins 2**
17:05	Safety of AI Systems in Modeling and Simulation Young Lee | UL Solutions	Building Surrogate models for Physics Simulation using a no-code approach Asparuh Stoyanov | Key Ward	Using FEA To Enhance Experiments In Thermal Processes Michael Roy | TWI	Digital Thread Foundations for Accelerated Multi-Disciplinary CAE Workflows Navin Bagga | Rescale
17:25	Simulation Governance: Strategy or Way-of-working? Peter Langsten | Predict change	Reshaping Simulation Data for an AI Future Sam Zakrzewski | Rescale	Machine Learning Assisted Induction Welding Simulations of Thick Unidirectional Carbon Fibre Reinforced Thermoplastic Polymer Laminates Niels van Hoorn | NLR - Royal Netherlands Aerospace Centre	From Idea to Reality ? Unlocking the Business Value of Digital Twins Throughout Product?s Life Cycle Sebastian Poulheim | Altair Engineering
17:45	Working Thoughts on Simulation Governance of AI/ML Based Simulations Gregory Westwater | Fisher Controls International	Accelerating R&D Processes with AI-Driven CAE Florian Dirisamer | dAIve	Enhancing Laser Welding Predictions Through AI-Driven Physics Modelling Leszek Pecyna | MTC Operations	Hybrid Simulation and Data Analytics Health Monitoring Method for SMART Class Marine Vessels Zhi Hang Zhang | NING Research
18:05	Open Discussion on Simulation Governance of AI/ML Based Simulations Gregory Westwater | Fisher Controls International	Autonomous 3D-CAE Agents ? Rethinking complex 3D-simulation workflows Dirk Hartmann | Siemens	Numerical Analysis of Laser Welding Parameters to Enhance Battery Tab Strength and Reliability Anand Pathak | Dassault Systèmes	
18:25	**End of Presentations**	19:00 **| Zistelalm Dinner**	19:45 **| Mozart Concert**	

Tuesday 20th 15:00 - 18:25

3E | NVH

ML-based Tool to Improve NVH Performance of Body-car Structures
Fabiola Cavaliere | SEAT

Integrated Testing and Simulation to Optimize and Streamline Development of Electric Drive Systems
Mathieu Sarrazin | Siemens

Electromagnetic and NVH Analysis of PMSM with Eccentricity and Rotor Magnetization Variations
Alain Tramecon | ESI Group

Optimal PMSM Rotor Notching Design Procedure for NVH Mitigation Across the Whole Operation Range Using Reduced-Order Models
Sebastian Ciceo | Siemens

Break

4E | Dynamics & Vibration

Predicting Dynamic Response of Centrifugal Pumps using Idealized Loading and Load Case Combination
Søren Thalund | Grundfos

Design Optimization of Rubberlike Materials for Complex Dynamic Systems and Applications
Armin Amindari | Beko

Managing Uncertainties in Mechanical Properties of Materials for Seismic Testing: A Case Study on Capacitor Voltage Instrument Transformers
Ivan Cehil | Koncar Instrument Transformers

3F | Composites 1

A Machine Learning-Based Robust Design Approach for Reliable Use of Recycled Short Fiber Reinforced Polymers
Moncef Salmi | Hexagon

Modeling Cure-Induced Thermo-Mechanical Effects in Carbon-Fiber Polymer Structures via FEM
Minh Hoang Nguyen | Digital Blue

Automated Generation of Anisotropic Material Models for the Simulation of Short-Fiber-Reinforced Plastics Using Machine Learning Methods
Wolfgang Korte | PART Engineering

ICME Predictive Solution for the Durability of Composite Laminates Under Fatigue Loadings
Moncef Salmi | Hexagon

Break

4F | Additive Manufacturing 2

Numerical Analysis of a Repair on an Impeller Using Directed Energy Deposition: Thermal and Mechanical Analysis
Jos Vroon | NLR - Royal Netherlands Aerospace Centre

Computationally Efficient Model for Induction Preheating of Moving Wire in Wire-based Additive Manufacturing
Ruofeng Cao | Cranfield University

Calibration of Numerical Models of Laser Powder Bed Fusion with Melt Pool Measurements
Anas Yaghi | TWI

Finite Element Analysis of Large Evolving Deformation Caused by Inter-layer Mechanical Working During Wire Arc Additive Manufacturing
Yongle Sun | Cranfield University

3G | Electric Vehicles

ML-Based System-Level Optimization of an EV Cooling System
K V Radha Krishnan | DEP

MBD-CFD Coupling Simulation of Oil Cooling Performance Analysis for E-motor
Woojin Shin | FunctionBay

Optimized EV Charging: AI-Driven Model Reduction
Florian Dirisamer | dAIve

Electric Drive Engineering Emphasizing Fluid and Thermal Analysis: A Case Study of the Simrod Vehicle
Xavier Conqui | Siemens

Break

4G | Multiphysics 1

Open Source Vibro-Acoustic Simulation for Real-world Applications
Antonio Baiano Svizzero | Undabit

Flames in the Concrete Jungle: Modelling the Real Threats of EV Battery Fires
Zhi Wei Lim | NING Research

Multiphysics Optimization of a Power Module Cooling Solution
John Parry | Siemens

Multiscale and Multidomain Modeling of Battery Behavior in Crash Scenarios
Tobias Aubel | Dynamore

3H | Connecting SDM and PDM/PLM

Transformation of an In-house CFD Development Process Automation Tool into a SPDM Environment
Matthias Grundner | Denso Automotive Deutschland

Streamlined Transition from CAD to CAE Structures for Optimized Product Development
Spyros Tzamtzis | BETA CAE Systems

Enabling R&D Through Digital Democratization: A Case Study In The Global Food Industry.
Leonel Garategaray | Inensia

Break

4H | Simulation Data Management 2

Enhancing Engineering Efficiency: The Synergy of SPDM and PIDO Integration
Laurent Chec | pSeven

Levering Simulation Knowledge to Improve Product Design
Wouter Dehandschutter | Siemens

Enhancing Collaboration on Multibody Dynamics Simulations with Simulation Data Management
Marko Thiele | Scale

User-Friendly Application Integration in Advanced SDM Infrastructures
Markus Weinberger | Hexagon

3J | HPC

An Industry Representative Benchmark Study on Current Capabilities for Parallel Computing Simulation Speed-up and Scalability
Adi Adumitroaie | Porsche eBike Performance

Orchestrating Hybrid HPC Environments: Strategies for Data Gravity and AI-Ready Datasets
Romain Klein | Rescale

Break

4J | Workshop

ASSESS - Plans for 2025
Nick Appleyard | NAFEMS

07:30	**Registration opens**			
08:30	**Welcome to Day 3**			
08:35	**Keynote:** Make Healthcare Better with Computational Modeling and Simulation Cheryl Liu | Stryker Orthopaedics			
09:05	**Keynote:** A Central Hub for Data Management and Process Automation – Ready for Virtual Certification Frank Bauer | BMW			
09:35	Break	Break	Break	Break
10:30	**5A | Simulation Governance**	**5B | AI Supported Postprocessing**	**5C | Fatigue 1**	**D | Sponsor | Dassault Systèmes**
10:35	Safety Comes First: How to Do the Minimum Quality Assurance in Finite Element Modelling Alexandru Macovei | Fokker Aerostructures	Interactive Search of Crash Deformation Patterns in a Database Comprising Several Hundred Full Model Crash Simulations Stefan Müller | Sidact	From The Paris Law To The 'Total-Life' Method: An Extensive Review Of Fatigue Crack Growth Laws And Models Andrew Halfpenny | HBK	Platinum Sponsor: Dassault Systèmes From IDEA To PRODUCT: SIMULIA Fluids Portfolio For Designers And Analysts To Accelerate Product Innovation
10:55	Advances in Credibility of Modeling and Simulation: A Generic Framework Approach at Bosch Mohamed Besher Baradi | Robert Bosch	Leveraging LLMs for Automated Post-Processing of HPC Simulation Output Logs James Imrie | Rescale	Simulation-based Design Process For Metallic Structures Mathilde Laporte | DLR - Deutsches Zentrum für Luft und Raumfahrt	
11:15	Evolution of the Simulation Quality Standards Landscape Martin Krammer | Knorr-Bremse	Applied research on contextual graph databases: What are the findings for AI use cases and what insights can be drawn? Christopher Woll | GNS Systems	Fatigue Analysis as Solver Integrated Standard Task for Part and Assembly Design Michael Klein | Intes	
11:35	Credibility of Simulation Models: A Brick-by-Brick Approach Florent Mathieu | EikoSim	Reimagining the Simulation Environment by Creating a Knowledge Database to Enhance Simulation Consumers Comprehension and Accelerate AI Learning Prasad Mandava | Visual Collaboration Technologies		
11:55	Lunch	Lunch	Lunch	Lunch
13:10	**6A | Solvers & Methods**	**6B | Data Based Modelling**	**6C | Fatigue 2**	**6D | System Level Simulation**
13:15	From Traditional to Transformational: Cloud-Native Deployment of Established Nonlinear Solvers David Heiny | SimScale	Cloud-Enabled Generative AI for Preliminary Engineering Design Nima Ameri | Rolls Royce	Predicting The Fatigue Life Of Adhesive And Hybrid Joints: An Effective Approach Combining Numerical Simulations And Physical Testing Cristian Bagni | Hottinger Bruel & Kjaer .	Systems Simulation for the Evaluation and Down Selection of Fusion Engineering Blankets James Bailey | UKAEA
13:35	Meshing-Free Isogeometric Analysis: The Flex Representation Method in Engineering Simulation Greg Vernon | Coreform	Method For Determining Operating Loads On Rail Vehicles Using AI Tools Mathilde Laporte | DLR - Deutsches Zentrum für Luft und Raumfahrt	Virtual Testing for Fatigue Prediction in Variable Loading Scenarios Using CDM and Machine Learning-Calibrated Models Javier Domingo Lopez | Airbus Defence & Space	Impact Assessment Of Road Safety Measures - Developing Guidelines For Simulation Model Set-Up Peter Wimmer | Virtual Vehicle Research
13:55	Reverse Engineering in Simulation - Bridging Meshes and CAD for Seamless Integration Gerd Schwaderer | ESI Germany	Generative-AI for Preliminary Engineering Design Yashwant Liladhar Gurbani | Rolls-Royce Group	Fatigue Life Analysis as Part of the Design Optimization Process for Welded Structures George Korbetis | BETA CAE Systems	Enhancing System Modeling Workflows with Knowledge Graphs and Generative AI Maria Bonner | Siemens
14:15	Application of High Performance Computing to Structural Acoustics Predictions Kuangcheng Wu | NSWCCD	Empowering Syringe Designers to Assess Device Performance with Physics-based Machine Learning Models Benedikt Koenig | Dassault Systèmes	The Fatigue Benchmarking Repository Project: Objectives and Its Relevance to NAFEMS Jan Papuga | Czech Technical University	Determining the Accuracy and Efficiency of Robot Performance in a Non-Idealized World Brant Ross | EnginSoft

P PLENARY

Break

5E | Optimisation 1

High Voltage Circuit Breaker Design with Multi-Objective Optimization Algorithms
Wilhelm Thunberg | Hitachi Energy

Distributed Multi-disciplinary Design Optimization of Complex Engineering Systems
Hunor Erdelyi | Siemens

Unified Non-Parametric Optimization Of Multiple Design Variable Types
Pratik Upadhyay | Dassault Systèmes

Enhanced Non-Parametric Topology-, Shape- And Sizing-Optimization Using Non-Linear Structural Modeling
Anton Jurinic | Dassault Systèmes

Lunch

6E | Discrete Element Method

A Novel Multi-scale Multi-physics Computational Framework for Predicting Process-to-property Relationships in Battery Electrode Manufacturing
Ali Nassiri | Ohio State University

What Makes a Model Good? A Review Of Applications Across Industries
Augusto Moura | DCS Computing

A Study on the Damage of Dump Truck Loading Box Based on Dynamic Behavior of Aggregates Through DEM-FEM Coupled Analysis
Seunghun Ryu | Hyundai

Break

5F | MPS - Injection Moulding

Cooling Strategy Evaluation and Optimization for the Injection Molding Process Using Simulations
Yi Di Boon | TE Connectivity Germany

Non-Intrusive Structural Prediction of Stretch Blow Moulded Bottles
Liam McGovern | Queen's University of Belfast

Development of Gap & Flush Analysis Technology for Automobile Lamps
Hyuck-moon Gil | SL Corporation

Numerical Simulation of Filling and Cooling Phenomena in Injection Molding
Atmane Thelib | Fabrication Saharien Preform

Lunch

6F | MPS - Metals

A Cost-effective Cold Roll-Forming FE Model for Industrial Applications
Timothy Senart | CRM Group

Design Exploration of Hot Ironing Process Using Finite Element Method
Bulent Acar | Repkon Machine and Tool Industry and Trade

Advancing Stability and Accuracy in 2D Metal Cutting Simulations: An Expanded ALE Approach for Modeling Chip Formation in Milling Processes
Andreas Nemetz | Johannes Kepler Universitat Linz

Break

5G | Battery Design 2

Adapting To Meet The Electrification Challenge
Graham Hill | Caterpillar

Real-time prediction for an EV Battery Thermal Management
Ajitkumar Jeyakumar | SimScale

Battery Simulation - Synergies by Combining 1D & 3D Simulation
Eric Link | Siemens

Revolutionizing Battery Cold Plate Design
Paul McGrath | Neural Concept .

Lunch

6G | Cosimulation

A Novel Two-Scale Co-Simulation Approach for Solder Joint Modeling in Shock and Vibration Analysis of Electronics
Henan Mao | Ansys

Accurate Modeling Of Power Electronics Effects In Electric Aviation Through Co-simulation
Philipp Wolfrum | Siemens

MBS - FEA Co-Simulation approach applied to a coupled Vehicle-Tire in an Abuse Loading application
Bruno Passone | Dassault Systèmes

The Introduction of Recent Developments in Multibody Dynamics and Their Applications
Sangtae Kim | FunctionBay

Break

5H | Democratisation

Automation and Democratization of High Fidelity Thermal Simulations of Electronics
Kim Nielsen | Grundfos

Democratization of Engineering Simulation: Enabling Technologies and Organizational Shift
Bruce Webster | Novus Nexus

Development of an Automated and Democratised Simulation Process to Predict the Behaviour of a Pump Membrane
Tobias Gloesslein | Esteco

Lunch

6H | Automated Workflows

Integration of a Structural Mechanics Module (SMM) into a Collaborative Engineering Platform
Oliver Kunc | DLR - Deutsches Zentrum für Luft und Raumfahrt

Automation of the CFD Simulation Workflow in the Industrial Application
Tomasz Płusa | Valeo

Cloud-based Automated CFD Design Tools Using the Example of the Heat Treatment of Titanium Components
Ulrich Heck | Dhcae Tools

Integrated Multi-Physics Optimization of Automotive Road Wheels Using Advanced Mesh Morphing and AI
Marco Evangelos Biancolini | RBF Morph

Break

5J | Workshop

Standardisation for Manufacturing Process Simulation
Sjoerd Van Der Veen | Airbus Operations

Lunch

6J | Short Training Course

All You Need to Know about Design Optimisation (almost)
Gino Duffett | NAFEMS

14:35	Break	Break	Break	Break
15:20	**7A | Probabilistic Methods**	**7B | Topology Optimisation**	**7C | Joints & Connections**	**7D | Reduced Order Modelling 2**
15:25	A Study on Probabilistic Analytical Target Cascading for Robust Vehicle R&H Development Using a Machine Learning Model Jiin Jung | Hyundai	Bionic Carbody: Lightweight Rail Car Development - From Topology Optimization to a Feasible Welded Structural Design And Prototype Robert Nedelik | Siemens	Nonlinear Cohesive Zone Modeling for Adhesives Tobias Waffenschmidt | 3M Deutschland	Systems Simulation For Fusion Using Novel Augmented CMS Reduction Techniques Tom Deighan | UK Atomic Energy Authority
15:45	Machine Learning in Simulation - Ensuring Robust and Reliable Products Jochen Kinzig | Cenit	Efficient Generative Design Process with FEM Based Topology Optimization Nils Wagner | Intes	Multidisciplinary Mesh-independent Approach for Damage and Failure Simulation of Connections Patrick Wurm | Magna Steyr	High-Fidelity Simulation of Electric Vehicle based on Reduced Order Models to Address Complex Trade-Offs Eric Link | Siemens
16:05	Cross Domain Applications of Fragility Surfaces Roland Niemeier | Ansys	Topology Optimization of Submodels using Voxel Based Engineering Approach Thomas Reiher | Hexagon	Techniques for Inverse Calibration of Cohesive Zone Models Mark Oliver | Veryst Engineering	Using Machine Learning For Advancements Beyond Traditional Reduced Order Modelling Approaches In Parametric Optimization Of Electronics Systems Markus Wagner | Ansys
16:25		Enhancing Design Efficiency for Pressurized Components Through An Automated Vertical Tool For Topology Optimization Mads Nymann | Grundfos	Overview and Application of Different Modeling Techniques for Structural Adhesives Alexander Schowtjak | 3M Deutschland	
16:45	Break	Break	Break	Break
17:20	**8A | Uncertainty Quantification**	**8B | CAE in the Design Process**	**8C | Contact & Adhesives**	**8D | Systems Engineering**
17:25	Machine Learning for Uncertainty Quantification in Crash Simulations Gabriel Curtosi | SEAT	Optimization of Profile Extrusion Dies using 3-D Finite Element Simulation of Polymeric Flows Mahesh Gupta | Kennesaw State University	Effective Way To Handle Contact Nonlinearities In Random Response Simulations Maciej Majerczak | Valeo	Validation of a Multibody Simulation Model for the Optimization of a Railway Bogie Engineering Process Danijel Obadic | Siemens
17:45	Normalizing Uncertainty in Computer-Aided Engineering: A Case Study Fabio Santandrea | Volvo Car Corporation	CFD-Proven Design of Positive Displacement Machines by Automated Data Exchange Andreas Spille | CFX Berlin Software	Accurate and Fast Consideration of Interference Fits in Flexible Multibody Dynamics Wolfgang Witteveen | FH OÖ Forschungs- und Entwicklungs	Machine Learning Meets Set-Based Design: A Practical Approach to Overcoming Complexity in Vehicle Design and Simulation Morgan Jenkins | Secondmind
18:05	Applications of ML and ROM for Robust Optimization Kambiz Kayvantash | Hexagon	Democratizing A Box Compression Test Of A Corrugated Fiberboard Package Janne Ranta | Dassault Systèmes	Injection Adhesives for Lightweight Vehicles: Validation of a Simulation Method Based on Particle-based CFD Massimo Galbiati | Particleworks Europe	What Do Simulation Engineers Need To Know About Systems Engineering And MBSE Alexander Busch | Ansys, NAFEMS-INCOSE Systems Modeling & Simulation Working Group
18:25			Simulation and Validation of Contact Forces in Impact Systems for Developing an Adjustable Substitute Workpiece Sascha Hasenoehrl | Karlsruher Institut für Technologie	Streamlining Complex Product Development: Integrating Systems Engineering and SDM in One Platform Marko Thiele | Scale
18:45	**End of Presentations**			
19:00	**Steering Committee & Working Group Reception (1st floor)**			
20:00	**Gala Dinner - Plenary Hall**			

Break

7E | Workshop

Speaking of Simulation Live - Machine Learning
Marton Groza | NAFEMS

Break

8E | Optimisation 2

Exploitation of Multi-Fidelity Efficient Global Optimization in an Engineering Collaborative Platform
Ceyhun Sahin | Noesis Solutions

Optimization of Air-Cooled Heat Exchangers with Diamond Triply Periodic Minimal Surface Structures through Computational Fluid Dynamics and Design of Experiments
Landong Martua | Singapore Institute of Technology

Optimizing MOSFET Power Modules: A Multi-Domain Simulation Framework for Enhanced Efficiency and Thermal Management
Christine Schwarz | Noesis Solutions

Break

7F | Materials 1

Automotive Applications of the Crystal Plasticity Finite Element Method for Predicting Microstructural Properties in Metal 3D Printing
Hoyoung Lee | Hyundai

Extending a Material Master System by Multi CAE Material Information
Uwe Diekmann | Matplus

AI-Driven Design, Simulation And Optimization Of Novel Meta-Materials For Heat Transfer And Mechanics
Alessia Perilli | FVmat

Break

8F | Material Characterisation

On the Characterization And Calibration of Alloy Materials used in Additive Manufacturing Processes for Crashworthiness Applications
Vincent Suske | Dynamore

Combining Pretrained AI Models with a Transfer Learning Approach for Accurate Enrichment of Static and Creep Data in Reinforced Plastics
Moncef Salmi | Hexagon

Rate and Pressure-Dependent Failure Modeling of Thermoplastics
Sean Teller | Veryst Engineering

Comparison of Calibration Strategies for Material Models of Polymers, Foam, and Composite Materials
Daniel Campos Murcia | DatapointLabs

Break

7G | CFD Supporting Design

Importance of CFD for Design of Heat Ventilation Air Condition Unit (HVAC) For Personal Vehicles
Petr Nekolny | Valeo

Cross-wind Aerodynamic Analysis of Electric Cargo Scooter Designs using the Unified Modelling and Simulation Approach
Srikrishna Chittur | Dassault Systèmes

Modelling Aero-Optical Turbulent Effects On The European Solar Telescope Using CFD Analysis
Mahy Soler | Principia Ingenieros Consultores

A High-Fidelity, Multi-Disciplinary Framework for Wind Turbine Aero-acoustic and Vibro-acoustic Noise Reduction
Claus Pedersen | Dassault Systèmes

Break

8G | Multiphysics 2

Multi-physics Simulations for Advanced Beamline Instrumentation at European XFEL
Fan Yang | European XFEL

A Multiphysics Computational Method For Coupled Simulations Of Tribological Systems
Volker Gravemeier | AdCo Engineering

Multiphysics Simulation-Driven Design of Hydrostatic Rotary Table
Markel Alaña | Ideko S

Break

7H | Computational Electromagnetics

Non-Linear Magnetisation Architecture for Improved Magnetic Performance
Oliver Found | TWI

Signal Detection of Metallic Microwires Within Carbon-Fibre Composites by Numerical Simulation for Structural Health Monitoring of Aerospace Components
Wolfgang Krach | CAE Simulation & Solutions Maschinenbau Ingenieurdienstleistungen

How Machine Learning is changing Electromagnetic Compatibility Simulation
Jan Hansen | Technische Universität Graz

Automatic Mesh Adaptation for Electromagnetic Simulations in Material Processing
Jesus Garcia Oswaldo | Transvalor

Break

8H | Electronics

Finite Element Based Validation of Printed Circuit Board Assemblies Considering Static, Vibrational and Thermal Loads
Walter Hinterberger | Magna Steyr

Advanced FEM Warpage Simulation of IC Substrates with Embedded Components, Validation through Experimental Methods
Cem Özgür Kösemek | AT & S Austria Technologie & Systemtechnik

A Novel Workflow for Efficient Large BGA Solder Reflow Simulation in Advanced Electronics Packaging
Henan Mao | Ansys

Break

7J | Short Training Course

German FKM Guidelines - An Introduction
Klemens Rother | University of Applied Sciences Munich

Break

08:00	**Registration Opens**			
09:00	**9A | Generative Design**	**9B | Buckling**	**9C | CFD Methods**	**9D | Aero Optimisation**
09:05	3D Generative Design Through Free-Form Geometry and Embedded Simulation Data Yashwant Liladhar Gurbani | Rolls-Royce Group	The Nature of Interframe and Global Collapse Modes of Submarine Pressure Hulls Jack Reijmers | Nevesbu	Efficient Hybrid Approach For Vehicle Soiling Simulations Kevin Posch | Magna Steyr	Advancing CAD-Based Wing Geometry Optimization Using High-Accuracy Sensitivity Analysis Lennart Toenjes | DLR - Deutsches Zentrum für Luft und Raumfahrt
09:25	Multiphysics Optimization for Electrical Machines considering Multiple Operation Points Claus Pedersen | Dassault Systèmes	Optimization of Lightweight Structures: Integrating Eigenfrequency and Load Factor Constraints Nils Wagner | Intes	Hybrid Volume of Fluid to Lagrangian CFD Modell for Jet Breakup and Spray Transport Ulrich Heck | Dhcae Tools	Development of an Aerodynamic Housing for Bogies of High-Speed Trains including Analysis of Thermal Effects on Components Thomas Moshammer | Siemens Mobility Austria
09:45	Generative Machine Learning for Topology Optimization Daniel Ulrich | Atavi	Numerical Analysis and Optimization of Interference Fits of Interlocked Rotor Core Laminations Emre Baris Yildiz | IKTD - University of Stuttgart	Computational Aeroacoustic Analysis of a Complex Pipeline Erika Quaranta | Student	Collaborative Design and Optimization of the Aircraft Wing Geometry Nina Moello | pSeven
10:05	Deep Generative Design: Revolutionizing Engineering Design through Generative AI Namwoo Kang | Narnia Labs	How to Modify a Design to Avoid Nonlinear Buckling due to Contact Michael Klein | Intes		Tire Wake Analysis Through Unsteady Aerodynamics Simulations Alejandro Martinez Navarro | Dassault Systèmes
10:25	Break	Break	Break	Break
11:10	**10A | Sim. Governance - Supp. Certification**	**10B | Data Analysis/Postprocessing/Visualisation**	**10C | Computational Fluid Dynamics**	**10D | Multibody Simulation**
11:15	Simulation For Compliance/Certification Dirk Mueller | UL Solutions	Explorative In-Situ Analysis of Turbulent Flow Data Based on a Data-Driven Approach Christian Gscheidle | Fraunhofer SCAI	Real-world Surrogate Medical Device Inputs to Explore Complex Rheological CFD Mixing Oliver Marshall | Crux Product Design	Application of Load and Displacement Boundary Conditions on Flexible Multibody Simulation Models Tobias Ulmer | Airbus Operations
11:35	Invited presentation: Future Systems Depend Increasingly Upon Close Interactions of Domain and Systems Competencies at all Tiers Twan de Wit | NXT GEN Hightech	New Developments in a Vector Field Approach to use Finite Element Stress Results to Plot Load Paths for Internal Load Transfer Donald Kelly | University of New South Wales	Combining Computational Chemistry And 3D CFD To Simulate CO2 Membrane Separation For Carbon Capture Barbara Neuhierl | Siemens	Multi Body Dynamics Simulation of Disc Brakes with Frictional Heat Fumio Nakayama | FunctionBay
11:55	Certification By Simulation: An Example Of Where Confidence In Simulation Based Certification Has Been Eroded Over Time.... Steve Howell | Abercus	Build, Monitor, and Run a Digital Twin with Scientific Visualization Tools Francois Mazen | Kitware	Modeling External Aerodynamics with a Decomposable and Multi-scale Neural Operator John Linford | Nvidia	Developing motion simulators using CAE at Dynisma Laurence Vaughn | Dynisma
12:15		Simulation Data Management as the Basis for Advanced Post-processing and Data Analysis in CAE Simulation Andreas Nicklaß | GNS Systems	Utilization of a Fluid-Structure Interaction Simulation Methodology for Biomedical Applications József Nagy | eulerian-solutions	Development of a Simulation Tool to Address the Requirements of the STURDY Act Alan Wegienka | Design Simulation Technologies
12:35	Lunch	Lunch	Lunch	Lunch

13:30	**NWC25 Awards** Manfred Zehn | TU Berlin - Vice-Chair NAFEMS Council
13:45	**Keynote:** Are We Ready for Foundational Models? Astrid Walle | Siemens Energy
14:15	**Panel Discussion:** Will AI Together with SDM Change the Future of Engineering Methods? Albrecht Pfaff | Consultant
15:00	**Closing Remarks & End of Congress:** Manfred Zehn | TU Berlin - Vice-Chair NAFEMS Council

P PLENARY

9E | Materials 2

Effect of Material Model Temperature and Time Dependence on Numerical Model Predictions of Deformations and Stresses...
Felipe Robles Poblete | University of Maine

Numerical Modeling of Stitching-Enhanced Wood-Based Laminates for High-Performance Applications
Markus Wagner | Technische Universität Graz

Universal Machine Learning System for Material Properties Prediction
Daniel Trost | Key to Metals

Break

10E | Composites 2

Virtual Allowables For Composite Laminates Via FE-Based High-Fidelity Stochastic Progressive Failure Analysis
Minh Hoang Nguyen | Digital Blue

Optimizing the Crashworthiness of Plastic Components by Utilizing the Injection Molding Manufacturing Effects
Panagiotis Fotopoulos | BETA CAE Systems

Signal Converter Enclosure Multiple Verification Through Simulation As Per Military Standards
Govindaraju MD | TE Connectivity

Fatigue Design of Long-Fiber-Reinforced Polymer Components Using the Example of a Washing Machine Leach Container
Matthias Kabel | Fraunhofer ITWM

Lunch

9F | Multiscale

Accelerating and Optimization of Foam Production and Product Quality using a Digital Multiscale Twin...
Dariusz Niedziela | Fraunhofer ITWM

The NECTO Structure: A New Approach to Sustainable Ultra-lightweight Design with Special Challenges for Simulation
Michael Probst | CAIQ

Leveraging Multiscale Modeling for the Prediction of Composite Material Response
Vangelis Palaiokastritis | BETA CAE Systems

Break

10F | Code Coupling

A Multi-Physics Simulation Framework For Maxwell & Equations
Jürgen Zechner | TailSit

A Coupled Simulation Approach to 3D Battery Thermal Runaway Cell To Cell Propagation
Vishnuvardhan Ranganathan | ThermoAnalytics

Revolutionizing Engineering Analysis With Automated Electromagnetic And Structural Simulation Workflows
Tobias Bernarding | Dassault Systèmes

Lunch

9G | VMAP

VMAP Workshop - Vendor-Neutral Standard for CAE Data Storage
Klaus Wolf | Fraunhofer SCAI

Enhancing Simulation Workflows: Leveraging VMAP, META, and ANSA for Optimized Results Handling
Athanasios Fassas | BETA CAE Systems

VMAP - A Vendor-Neutral Standard for Semantic Information Management in CAX Domain
Priyanka Gulati | Fraunhofer SCAI

Open Discussion
Klaus Wolf | Fraunhofer SCAI

Break

10G | Upfront Simulation

Democratization, Upfront Simulation and the Role of the Simulation Expert
Bob Tickel | Cummins Engine Company - Technical Center

A Study into Satellite Model Build Automation
Sunit Mistry | AWE

Pre-dimensioning Methodology for Nacelle using Multibody Simulation
Mohamed Ben-Tkaya | Safran Nacelles (Le Havre)

Lunch

9H | Simulation Enabling the Hydrogen Economy

Derisking the Hydrogen Supply Chain Using Simulation
Ajitkumar Jeyakumar | SimScale

Cryogenic Hydrogen Systems Simulation for Aeronautic Fuel Cell
Marc Hazenbiler | Test-Fuchs

Effect of Eulerian Multi-phase Models on Water Transport in Porous Media of PEM Fuel Cells
Barbara Neuhierl | Siemens

Simulation-aided Development of a Liquid Hydrogen Evaporator for Hydrogen-powered Aircraft Demonstrators
Steve Summerhayes | Element Digital Engineering

Break

10H | Civil Engineering

Structural Analysis Of A Dam Wagon Gate
Hervandil Sant'Anna | Petrobras

A Coupled Simulation Approach to Urban Climate Temperature Prediction With Moving Sun For Long Transient Durations In London City
Sacha Jelic | ThermoAnalytics

Lunch

9J | Workshop

How to Model What We Don't Know: Probabilistic Foundations of Uncertainty Quantification and Machine Learning
Frank Günther | Knorr-Bremse

Break

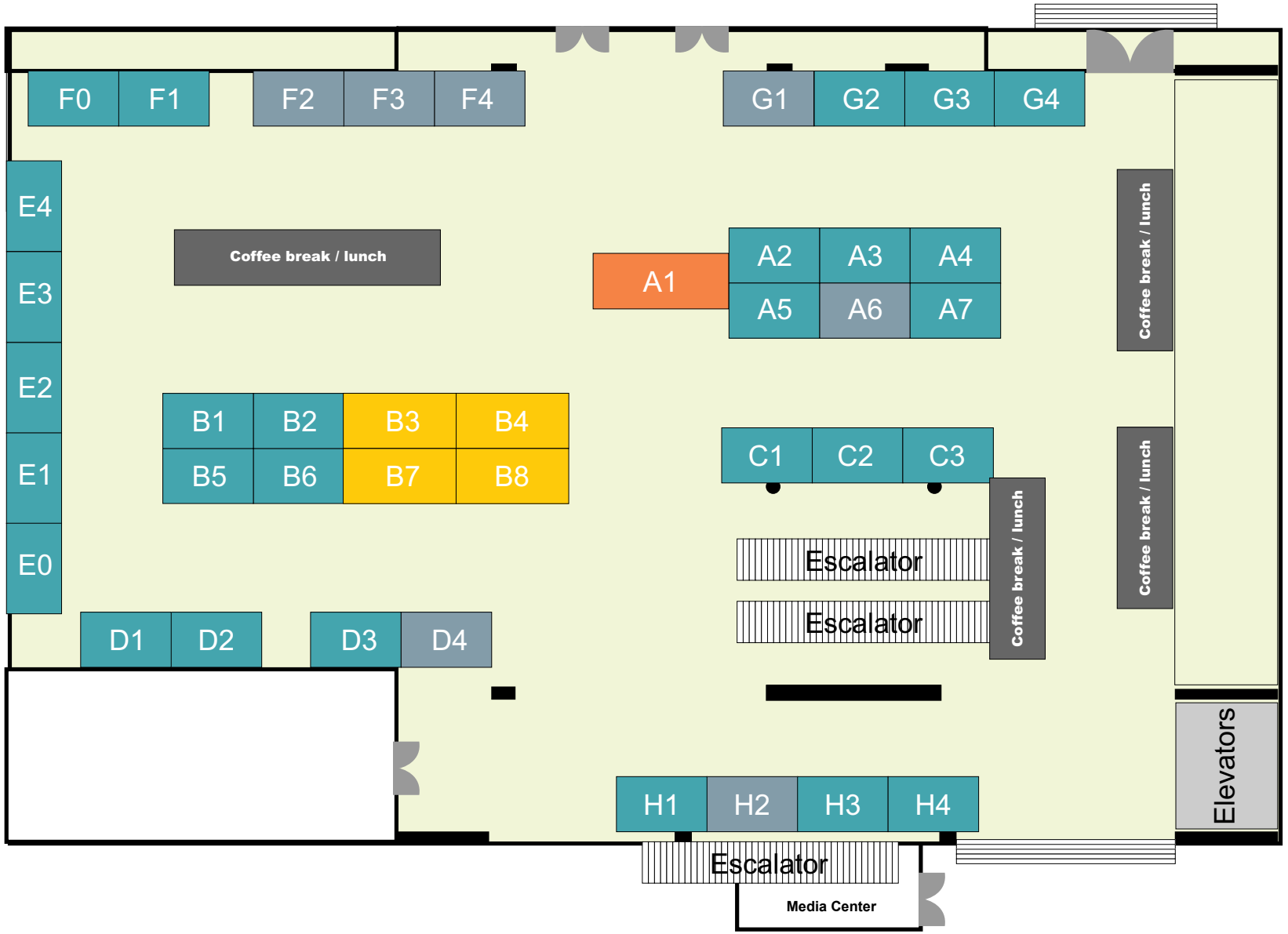
10J | Workshop

PSE (Professional Simulation Engineer) Certification
Gino Duffett | NAFEMS

Lunch


Save the date
NAFEMS World Congress 2027
25-28 APRIL 2027 | VANCOUVER | CANADA

Exhibition Map



Booth	Company
A1	Dassault Systems Platinum sponsor
A2	Quanscient
A3	HBK
A4	GNS Systems/GNS
A5	atNorth
A6	Qarnot Computing Silver sponsor
A7	Key to Metals
B1	Mesh-Oriented Solutions
B2	Coreform
B3	Hexagon Gold Sponsor
B4	Siemens Ind. Software Gold Sponsor
B5	Noesis Solutions
B6	DEP Detroit Engineered Products
B7	Ricos Gold Sponsor
B8	Rescale Gold Sponsor
C1	Scapos
C2	Thermoanalytics
C3	Sidact
D1	Eikosim
D2	BETA CAE Systems
D3	VMAP/Fraunhofer SCAI
D4	Altair Engineering Silver sponsor
E0	NovoNexus/VCollab
E1	Femfat by ECS
E2	Veryst Engineering
E3	Converge CFD
E4	Scale
F0	Endurica
F1	Intes
F2	Esteco Silver sponsor
F3	4a engineering Silver sponsor
F4	RecurDyn/FunctionBay Silver sponsor
G1	Cadfem/Ansys Silver sponsor
G2	Particleworks Europe
G3	pSeven
G4	CAIQ
H1	PDTec
H2	Viridien Silver sponsor
H3	Cosmon
H4	Tech Soft 3D

Please find the NAFEMS stand at the ground floor next to the registration.

Venue Map

LEVEL	TRACKS / ROOMS	
5	J	Meeting rooms 1-3
4	H	
3	G	
2	F, P PLENARY	Coffee breaks & lunches Gala dinner Session chairs morning coffee
1	E, EXHIBITION	Coffee breaks & lunches Media center, SC/WG meeting
0	A, B, C	Registration, Hotel Access, D

#NWC25