

Tuesday 9th July

Innovate - Integrate - Inspire: Creating a New Simulation Journey

nafems.org/nrcus

7:30 Breakfast / Networking / Registration and Exhibit Hall opens

8:30 Welcome/Tim Morris-NAFEMSPresentation/Plenary Speaker/ house keeping for shuttle to slugger

9:00 Keynote Speaker The Role of Higher Ed in the Pursuit of Business Value, Innovation, and Governance in Engineering Analysis & Simulation – Anthony Petrella – FEA Professional Graduate Program

10:00 Break

	Material Modeling & Additive Manufacturing - 1	Simulation Process and Data Management - 1	Systems Modeling and Simulation - 1	Structural Dynamics and Durability - 1
10:30	Additively Manufactured & AI Optimized Millimetre-Wave Waveguide Filter Design for Space Applications - The Journey from Design to Manufacturing Laila Salman - Ansys Canada Ltd.	Managing Key Parameters From Simulation Inputs and Results Leonel Garategaray - Inensia LLC	System Modeling Bridging the Gap with Smart Systems Modeling (SSM) Alejandro Ayala - Estrag IA	Crack Driving Force Burst Pressure Analysis of Piping Bend Custom Shape Surface Cracks Using 3D Crack Meshes in Elastic-Plastic FEA Greg Thorwald - Quest Integrity Group
11:00	Simulation Techniques to Improve Productivity and Sustainability in Glass Fiber Manufacturing Bruno Purnode - Owens Corning Science & Technology	Start Fast, Start Smart: How to Build a Solid Foundation for your SPDM Journey Leonel Garategaray - Inensia LLC	Connecting MBSE to Spacecraft Engineering Modeling & Simulation Eli Vidana - Ansys, Inc.	The Crucial Role of Nonlinear Contact Analysis in Engineering Applications Mike Sheh - INTES GMBH
11:30	Simulation-Driven Design of Lattice Structures Andreas Vlahinos - Advanced Engineering Solutions LLC	Achieving Large Scale Detailed Component Level Structural Simulations Mark Taylor - The Boeing Company	Designing for Space using Modeling and Simulation Daniel Winton - The Aerospace Corporation	Kinetic Theory Strength of Materials, Strength and Reliability System Alex Oudovikine - FA Consulting

12:00 Lunch

1:00 Exhibit Hall Open

1:30 Keynote Speaker - Engineering Design Optimization Sporting Equipment - Ninad Trifal - Engineering Design Optimization, Wilson Sporting Equipment

2:15 Break/Depart for Slugger Museum

2:45 Slugger Museum tour

AI/ Machine Learning & Data - 1

Acceleration of Stamping Simulation using an Advanced Artificial Intelligence Framework

[Dylan Budnick - Xccelerate AI](#)

AI-Surrogates and Concept Engineering: Navigating Challenges and Solutions in Accelerated Product Development

[Ashish Aggarwal - DS Americas Corp.](#)

Convergence of CAE, Data Science and HPC

[Fatma Kocer - Altair Engineering, Inc.](#)

Sponsor Workshop - Ansys

CFD

Simulation driven design of a BESS cooling system using CFD and parametric optimization

[Benjamin Becklynck - Optimec Consultants Inc](#)

Unveiling the Symphony of Flow: Process, Benefits, and Reflections on Aeroacoustic CFD Analyses

[Chaitanya Johar - AAON Inc.](#)

Advanced Modeling of Filtration Processes: Integrating High-resolution Filter Matrix into CFD-DEM Simulation

[Ahmadreza Haghnegahar - Ansys, Inc.](#)

Training Course

Nonlinear Analysis

[Tony Abbey - NAFEMS](#)

Wednesday 10th July - Morning Session

Innovate - Integrate - Inspire: Creating a New Simulation Journey

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7:30 Breakfast/Registration/ Exhibit Hall Open

8:30 Welcome and Keynote - Simulation Data Driven Product Development - Alice Gatlan-Popescu - John Deere)

Material Modeling and Additive Manufacturing - 2

9:30 Rapid Generative Design Exploration & Simulation Methods for Additively Manufactured Heat Exchangers
Maiki Vlahinos - nTop

10:00 Establishing and Maintaining the Digital Thread of Additively Manufactured Materials and Applications
Steve Arnold - NASA Glenn Research Center

10:30 Building Digital Twins of Additive Manufacturing Parts for Fatigue Life Prediction
Xueyong Qu - The Aerospace Corporation

Simulation Process and Data Management - 2

Leveraging Virtual Engineering for Faster Product Development and Cost Efficiency
Prasad Mandava - Visual Collaboration Technologies, Inc.

Quick and reliable simulation process automation to reduce product development time and cost
Karlheinz Peters - Novus Nexus

Innovative Developments in Finite Element Simulation Through Massive Data Management with Python nd Custom Tools.
Roberto Garcia - Idaero Solutions

Systems Modeling and Simulation - 2

Gas flow simulation generated for Internal Arc Fault based on Digital Twins
Mariana Bretado - Schneider Electric

A Methodology for Configurable System Simulation Models: Integration of SysML, SSP, and FMI
Juho Konno - University of Oulu

A Seamless Bridge: Integrating Cameo Systems Modeler into PLM
Brian Schouten - Prostep Inc.

Mentoring Workshop

Erin Berry - Collins Aerospace, Leanne Campbell - The Boeing Company, Peter Petrivoliakas - GE Aerospace

11:00 BREAK

Material Modeling and Additive Manufacturing - 3

11:30 Simulating the viscoplastic-damage response for semicrystalline polymers.
Jeff Weirsma - MillerKnoll

12:00 Simulation Based Design of Illuminated Knobs for Appliances
Carlos Chavez - Controladora Mabe S.A de C.V.

12:30 FE Simulations for Medical Devices: Applying Solution Verification Procedures to Nitinol and PLLA Stents
Sean Teller - Veryst Engineering LLC

Simulation Process and Data Management - 3

CAE CAD and CAE Abstract Models: two sides to the new Product Development Coin
Bruce Webster - Novus Nexus

Aerospace Structures Simulation Analysis Process and Data Management
Kenneth Dang - The Boeing Company

Scale and democratize reduced order modeling techniques within an SPDM framework
Nachiket Kasarekar - ESTECO North America, Inc.

Systems Modeling and Simulation -3

Aligning Data Flow Between MBSE and PLM Systems at a Leading American Aerospace Company
Brian Schouten - Prostep Inc.

An Interactive Decision Support Environment for Race Car Setup Selection using Predictive Lap Simulation Methods
Angel Zarate Villazon - Georgia Institute of Technology

Digital Twin for Durability - How to Schedule Maintenance the Smart Way
Dheeraj Vemula - Ansys, Inc.

AI/ Machine Learning & Data - 2

Demystifying AI for CAE
Ian Pegler - NVIDIA

AI in Design Exploration
Mike Sheh - INTES GMBH

The Role of Artificial Intelligence in the Generative Design
Alejandro Ayala - Estrateg IA

1:00 LUNCH

Training Course

How to Effectively Communicate Innovative Ideas
[Brian O'Keefe - Articulus LLC](#)

Sponsor Workshop - Rescale

Solving Industry's Data and Process Challenges of Digital Engineering with R&D Clouds
[Sandeep Urankar - Rescale Headquarters](#)

Bio-Medical Physics

Constitutive modeling of Human Sigmoid Colons using Neural Networks
[Aashish Ahuja - BD Technologies and Innovation](#)

Evaluation of heterogeneity and load dependence of mechanical properties of pharmaceutical tablets
[Alex Fok - Minnesota Dental Research Center for Biomaterials and Biomechanis](#)

Electromagnetic Heating Simulation of Medical Treatment for Infections After Knee Replacement Surgery
[Josh Thomas - AltaSim Technologies LLC](#)

Training Course

Dynamic Analysis
[Tony Abbey - NAFEMS](#)

CAE for Product Design - 1

Optimization of Bearing Lubrication in Large-Scale Wind Energy Gearboxes with Smoothed Particle Hydrodynamics (SPH)
[Felix Pause - DIVE Solutions GMBH](#)

Integrated Modeling and Simulation Approach for Bipolar Plate Flow Channel Design, Optimization and Design for Manufacturing
[Rajesh Nagose - SIMULIA India](#)

Comprehensive Design, Optimization and Verification of Buck Converter by Ansys Maxwell-Twin Builder Co-simulation
[Mohammad Shahabbasi - Ansys, Inc.](#)

Sponsor Workshop - Vcollab

Stochastics Working Group

Making the most of small data in an age of big data: the epistemic uncertainty challenge problems
[David Riha - Southwest Research Institute](#)

SWG Discussion Panel

Sponsor Workshop - Dassault

Wednesday 10th July - Afternoon Session

Innovate - Integrate - Inspire: Creating a New Simulation Journey

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	Material Modeling and Additive Manufacturing - 4	Simulation Process and Data Management - 4	PSE Workshop	AI/ Machine Learning & Data - 3
2:00	Material Calibration and Progressive Damage Modeling of 3D Woven Textile Composites (3DWTCs) in a Multiscale Framework Deepak Kumar Patel - Dassault Systemes SIMULIA Corp	Transitioning Topology Optimization Results to Structural Definition: An Enhanced Post-Processing Method Oguz Univerdi - The Boeing Company	Do you have questions about the PSE application process? Are you interested in some in depth assistance in learning more about it? Then, this workshop is for you! Jo Potts & Amit Trivedi	Deploying an AI Simulation Stack Across Engineering Teams - A Case Study Naghman Khan - SimScale GMBH
2:30	Validating Ansys Ceramic Chip Resistor Solder Fatigue Model Jenny Yang - Ansys, Inc.	Leveraging Adjoint and Design Exploration Methods for Fluids and Thermal Design Optimization: A Workflow Comparison Christian Windisch - Siemens Digital Industries Software		Enabling comprehensive Data Analysis and Machine Learning with Simulation Data Management Peter Friedrich - SCALEsdm US Corp.
3:00	Thermo-Mechanical Analysis of System Level Effects on Electronic Packages Arvind Purushotaman - Ansys, Inc.	Next Generation Workflow: A Graphical Workflow Interface to Increase Analysis Credibility and Integrate Expertise John Mersch - Sandia National Laboratories		
3:30	BREAK			
	Certification by Analysis	Modeling and Collaboration	Simulation Engineering Supporting Topics	AI/ Machine Learning & Data - 4
4:00	A Cross-Society Collaboration Project, Mapping Consistency Confirmation Frameworks Alexander Karl - Rolls-Royce Corporation	Parametric modeling of SOEC System in a Grid Energy Storage Application and Democratization for Wider Adoption Apurva Gokhale - ESTECO North America, Inc.	Towards E-Learning Ali Algumaei - Alsaeeda University	Artificial Intelligence to Empower Engineering Organizations: Technology & Applications Thomas von Tschammer - Neural Concept Ltd.
4:30	Considering uncertainty in the development of a bulk material simulation Ian Paulson - Rockford Engineering Works Ltd.	Building Bridge: Fostering Collaboration between Test Engineers and Analysts Erin Berry - Collins Aerospace		Megacasting 2.0: Transforming the Industry with AI Integration Milan Raval - Altair Engineering, Inc.
5:00	Exhibit hall and reception			

Training Course

How to Effectively Display Innovative Ideas
[Brian O'Keefe - Articulus LLC](#)

Sponsorship Workshop - Beta CAE

Consumer Products, Food and Drink

Using the Latest 3D Printing Technology to Accelerate the Digital-First Process
[Brent Vorst - Kinetic Vision](#)

Aseptic Fill Package Development using Bipath® and FEA
[Jay Juan - Stress Engineering Services, Inc.](#)

Leveraging Simulation for R&D, Innovation and Sustainability in Consumer Packaged Goods
[Tyler London - Reckitt](#)

Training Course

Dynamic Analysis
[Tony Abbey - NAFEMS](#)

CAE for Product Design - 2

Integrated Modeling and Simulation for Data-Driven Product Design
[Manish Barlingay - Inceptra](#)

Automated Robbustness Evaluation Process for Automotive Seat Structure Integrity and Occupant Injury Using Design of Experiments
[Santosh Patil - BETA CAE Systems USA, Inc.](#)

Advanced Methods - 1

Scenarios and Validation of Drill Bit Simulation in the Oil and Gas Industry
[Mahabub Alam - Ultra Drilling Technologies](#)

Consumer Products, Food and Drink Discussion Panel

Line-Convey and Vending Modeling in PepsiCo: Beverage Packaging R&D
[Muhammed Imam - Pepsi Co Beverage R&D](#)

Discussion Panel

NAFEMS Membership Session

Do you know about all of the benefits of NAFEMS membership?
 Do you have questions about the different benefits?
 Learn all about your personal and professional growth opportunities within NAFEMS!
[Bill Kuhlman - NAFEMS](#)

Thursday 11th July

Innovate - Integrate - Inspire: Creating a New Simulation Journey

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7:30	Registration and Exhibit Hall Open 7-8 am			
8:00	Welcome and Keynote - Application of Digital Engineering Methods and Virtual Environments in the Development and Certification of Small Unmanned Air Systems- Gerardo Oliveras - Wichita State University			
	Material Modeling and Additive Manufacturing - 5	AI/ Machine Learning & Data - 5	Systems Modeling and Simulation - 4	CAE for Product Design - 3
9:30	Multiphysics Design and Analysis of Silver-Based Low-Emissivity Coating Technology Khashayar Ghaffari - Ansys Canada Ltd.	Removing the Data science barriers to Deep Learning surrogates Maxime Bunel - Keyword GMBH	Does your company use the power of simulations to help projects develop system requirements? Greg Garstecki - Garstecki Modeling Solutions, LLC	Simulation for everybody at all stages of the design Girish Mudigonda - Altair Engineering, Inc.
10:00	Predictive Modeling to Enable Innovation In Textile Bonding Adhesives Liangkai Ma - The Dow Chemical Company	Unleash Creativity with Design Simulation and Neural Networks Suman Sudhakaran - TriMech	Coupling Manufacturing and Component Design with Systems Engineering Tero Frondelius - Wartsila Finland Oy	Isogeometric analysis for rapid simulation of fully-featured CAD models Michael Scott - Coreform LLC
10:30	Calibrating Cohesive Zone Models for Impact Simulations Sean Teller - Veryst Engineering LLC	Robustness and Reliability Studies for Weld Simulation Zhendang Xue - ESTECO North America, Inc.	The Philosophy of Co-simulation Philip Top - Lawrence Livermore National Laboratory	Simulation Driven Design into the Appliances Product Development Process Julio Anaya - Controladora Mabe S.A. de C.V.
11:00	BREAK			
	Electromagnetics	AI/ Machine Learning & Data - 6	Systems Modeling and Simulation - 5	CAE for Product Design - 4
11:30	NVH Analysis of EV Propulsion Systems - Electromagnetic Computation Case Study Sumeet Singh - EMWorks Inc.	Machine Learning for Physics-Accelerated Design of Mixing Tank Processes Mustafa Kaddoura - Ansys, Inc.	Validating real-time robotics models through high-fidelity simulation James Crist - EnginSoft USA	Solving Industry's Data and Process Challenges of Digital Engineering with R&D Clouds Sandeep Urankar - Rescale
12:00	A Connected, Performance-driven Electric Drive Development Process Young-Chang Cho - Dassault Systems	AI-based optimization of sheet metal stamping for automotive applications Seokpum Kim - ORNL	Democratizing Simulation Methods to Collaborate Efficiently using the 3DEXPERIENCE Platform Gopi Lanka - Dassault Systemes UK	Shifting Left: How Simulation for Designers Compliments Traditional Simulation To Achieve a Better Design Faster John Shew - Maya HTT
12:30	High-Fidelity Physics-Based Electromagnetics Simulation for Advanced Driver Assistance Systems Ushemadzoro Chipengo - Ansys, Inc.		Leveraging MODSIM Techniques for enhanced engineering analysis: integration of SOLIDWORKS models with the 3DEXPERIENCE Platform Omar Zohni - Dassault Systemes SIMULIA Corp	
1:00	Lunch / Exhibit Hall Open			

Multiphysics and Multiscale - 1

Simulation of Green Energy Thermal Battery System for Improved Design

[Josh Thomas - AltaSim Technologies LLC](#)

Multiphysics time-dependent electro-mechanical simulations for dielectric elastomers using Abaqus User Elements (UEL) & FEniCSx

[Kamalendu Ghosh - KLA](#)

High Fidelity Multiphysics Simulation-Based Reliability Assessment and Design of a 77 GHz Radar Sensor for Advanced Driver Assistance Systems

[Ushemadzoro Chipengo - Ansys, Inc.](#)

Advanced Methods - 2

The Development of a Virtual Prototyping Review Process Using a Collaborative Immersive Approach to Enhance Processes, Awareness, and Delivery

[Alanzo Granville - SAIC](#)

Developing Efficient Dust Removal Systems for Solar Panel Installations Using EM-DEM Coupled Simulations Approach

[Guilherme Lima - Ansys, Inc.](#)

Integrated Experimental and Numerical Approaches to Optimize Heat Blocking Efficiency in Intumescent Coatings.

[Taher Hafiz - Case Western Reserve University](#)

Structural Dynamics and Durability - 2

FEA Simulation based Ride Index Evaluation of Rail Track Maintenance Equipment

[Dipak Patil - Harsco Rail](#)

Predict The Thrill - Using Multi-Body Dynamics & FEA for Predictive Maintenance of Amusement Ride Track and Vehicle Structures

[Kyle Ussery - Theme Park Labs](#)

Seismic Certification of BESS Using Response Spectrum Analysis

[Rejean Belliveau - Optimec Consultants Inc](#)

Engineering Data Science Working Group

Hear from the Experts: Status and Future of AI/ML for CAE

[Fatma Kocer - Altair Engineering, Inc.](#)

EDSWG Discussion Panel

[Vladimir Balabanov - Boeing](#)

Multiphysics and Multiscale - 2

Enhanced Prediction of Multiple Shot Impacts using a FEA-CFD-DEM Modeling

[Ahmadreza Haghnegahar - Ansys, Inc.](#)

Enhanced Implicit-Iterative Coupling Algorithms for Strong-Coupled Multiphysics

[Sethu Subbarayalu - Dassault Systemes SIMULIA Corp](#)

Integrated Thermal Fluid Simulation Workflows for Electronic Cooling Applications

[Devadatta Mukutmoni - Dassault Systemes SIMULIA Corp](#)

Advanced methods - 3

ROM Technique for attenuating Structural Vibration & Weight Optimization at BIW level

[Vidya Shankar - Detroit Engineered Products](#)

DEM and iDEM Modeling of Triaxial Tests on Ottawa Sand

[Travis Shoemaker - University of Illinois Urbana-Champaign](#)

Combining Physical Test with Structural FEA to Develop Package-Specific Failure Models for Electronic Components

[Tyler Ferris - Ansys, Inc.](#)

Structural Dynamics and Durability - 3

Use of Hot-Spot Stress Method in Estimating Weld Fatigue in Rail Equipment.

[Dipak Patil - Harsco Rail](#)

Design Exploration Study of Vehicle Cab Floor Under Extreme Loading Conditions using Advanced Simulations

[Georgiy Makedonov - VIAS3D](#)

Advanced flexible body technologies for multi-body system simulation

[Sethu Subbarayalu - Dassault Systemes SIMULIA](#)

Simulation Governance Management Working Group

Simulation Governance & Management Working Group

SGMWG Discussion Panel

[Gregory Westwater](#)

[Alexander Karl](#)

[Peter Langsten](#)

[Rod Dreisbach](#)