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Inspiring Innovation
through Engineering Simulation

NRC 22
NAFEMS REGIONAL CONFERENCE
AMERICAS

June 21-23, 2022
Indianapolis, Indiana

AGENDA

NAFEMS

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NRC 22
NAFEMS REGIONAL CONFERENCE
AMERICAS

Inspiring Innovation
through Engineering Simulation

June 21-23, 2022
Indianapolis, Indiana

- **What is the future for engineering analysis and simulation?**
- **Where will it lead us in the next decade?**
- **How can designers and engineers realize its full potential?**
- **What are the business, technological, and human enablers that will take past successful developments to new levels in the next ten years?**

NAFEMS, the premier global organization dedicated to the advancement and improvement of engineering simulation, will address these questions during the NRC22 Americas, the NAFEMS Americas Regional Conference 2022.

NAFEMS events are the only truly independent and vendor-neutral conferences dedicated to engineering analysis and simulation. NRC22 Americas will bring together the leading visionaries, developers, and practitioners of CAE-related technologies in an open forum, unlike any other, to share experiences, discuss relevant trends, discover common themes, and explore future issues.

Conference Program & Agenda

nafems.org/nrc22-americas

Over 90 presentations
from industry, software providers, researchers, and academia

Discussion Sessions
- Simulation Governance
- Automotive
- Additive Manufacturing & Optimization
- Simulation: A Strategic Business Investment
- Systems Modeling & Simulation
- Modeling Structural Failure
- Generative Design

Eight Free NAFEMS Training Courses
(Certificates of Completion Provided)

Eight Free Community Training Courses & Workshops

18 Hardware and Software Providers
showcasing their latest technologies in the conference exhibition

Conference Dinner
on Wednesday Evening

Keynote Speakers

Jill Steffek
Oshkosh Corporation

Incorporating STEM, Diversity, and A New Role: Managing a Team of Simulation Experts

Vladimir Balabanov
The Boeing Company

Optimization, Machine Learning, & Digital Thread in Structures: Perspective from Boeing

Darrel Meffert
Caterpillar Inc.

Changing a Product Development Culture from "Test Focused" to "Simulation-Led": Sharing the Keys to Caterpillar's Success in Achieving This Change

Amol Vaidya
Owens Corning

Digital Innovation for Sustainable Future: Simulation Capabilities to Drive Growth

Chris Davey
Ford Motor Company

Connected and Data Driven: Model Based Systems Engineering, Simulation and System Adaptation

Steven R. Wellborn
Rolls-Royce

Practical Implementation of Digital Twins for Today and Tomorrow

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NAFEMS

As the only non-profit international association dedicated to the analysis, simulation, and systems engineering community, NAFEMS has established itself as the leading advocate for establishing best practices in engineering simulation. Nearly 40 years later, industry end-users, software and hardware solutions providers, researchers, and academic institutions continue to recognize NAFEMS as a valued independent authority that operates with neutrality and integrity.

NAFEMS Americas supports nearly 500 member companies located in the Americas region who are actively engaged in the analysis, simulation, and systems engineering community.

NAFEMS Americas Steering Committee Members

Rodney Dreisbach	The Boeing Company, Retired | Chairman
Steve Arnold	NASA Glenn Research Center
Jack Castro	The Boeing Company
Duane Detwiler	Honda Development & Manufacturing of America
Brian Duffy	FutureOn
Graham Elliott	De Havilland Aircraft of Canada Limited
Mario Felice	virsolTech Engineering Consulting, LLC
Francisco Gomez	GE Power, Mexico
Joshua Huang	Tesla, Inc.
Alexander Karl	Rolls-Royce Corporation
Linda Knudsen	Zimmer Biomet
Edward Ladzinski	SMS_ThinkTank™
Matthew Ladzinski	Ansys Government Initiatives
Laura Michalske	Procter & Gamble Company
Mark Palmer	Medtronic
Frank Popielas	SMS_ThinkTank™
Pat Prescott	Owens Corning Science & Technology
Marcus Reis	ESSS
Charles Roche	Western New England University
Mahmood Tabaddor	Accenture USA
Karim Zouani	Ford Motor Company
Andrew Wood	NAFEMS

Conference App

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Venue Floor Plan

INDIANA CONVENTION CENTER

DAY 1 MORNING SESSIONS Tuesday June 21st | 7:30am - 1:00pm

7:30am **Conference Registration Opens**

9:00am **Opening Day 1** Tim Morris | NAFEMS CEO

9.15am **Opening Day 1** Rodney Dreisbach | NAFEMS Technical Fellow | Council Member | Chair of the Americas Steering Committee

PLENARY SESSION 1 R. Dreisbach | NAFEMS Technical Fellow — Sagamore Ballroom 3-4

9.30am **Incorporating STEM, Diversity, and A New Role: Managing a Team of Simulation Experts** Jillian Steffek | Oshkosh Corporation

10.15am **Digital Innovation for Sustainable Future: Simulation Capabilities to Drive Growth** Amol Vaidya | Owens Corning Science & Technology

11:00am BREAK - SAGAMORE BALLROOM 5-7

	TRACK A Room 201	TRACK B Room 202	TRACK C Room 203	TRACK D Room 204
	A1 - CAE in the Design Process M. Ladzinski | Ansys Government Initiatives	**B1 - Data Science, Big Data, and Data Analytics** V. Balabanov | The Boeing Company	**C1 - Additive Manufacturing** J. Vandeventer | The Boeing Company	**D1 - Simulation Process & Data Management** K. Meintjes | NAFEMS Technical Fellow
11:30am	**Use of Artificial Neural Nets to Predict Stiffness and Fatigue Lives of Polymer Matrix Composite Laminates** Steven Arnold | NASA Glenn Research Center	**Co-Optimization, CFD and Surrogate Model-Driven Methods for Gas Turbine Blade Designs** Chao Zhang | Siemens Digital Industries Software	**Metal Binder Jet AM Sintering Simulation to Manage Process Induced Distortion and Failures** Mark McGinnis | Hexagon Manufacturing Intelligence	**Simulation Data Structuring as a Key Success Factor of Your SPDM Journey** Leonel Garategaray | INENSIA
12:00pm	**An Overview of the Design and Analysis of EDGE Compute Nodes in Urban Environment for 5G Mobile Networks** Laila Salman | Ansys Canada Ltd.	**Structural Optimization across Dissimilar Topologies for Automotive Body Design** Jami Shah | The Ohio State University	**Accurate Warpage Predictions for FDM Processes** Pierre-Yves Lavertu | Hexagon	**Advantages of Utilizing SPDM Workflows for Near Real Time CAE Design Updates** Sriram Banda | BETA CAE Systems USA, Inc.
12:30pm	**Modeling and Simulation: An Alternative Approach to Integrating Digital Tools in Design and Engineering** Sai Paranjothy | Dassault Systèmes Simulia Corp	**Deep-Learning for Engineering Application: Technical Capabilities and Transformation of Industrial Processes** Andy Fine | Neural Concept Ltd.		**Enabling Business, Design and Simulation Functions to Jointly Verify Product Requirements within an SPDM Platform** Alexander Duggan | ESTECO North America, Inc.

1.00pm LUNCH - SAGAMORE BALLROOM 3-4

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DAY 1 MORNING SESSIONS Tuesday June 21st | 7:30am - 1:00pm

9.30am

10.15am

11:00am BREAK - SAGAMORE BALLROOM 5-7

TRACK E — Room 205

E1 - Stochastics / Uncertainty Quantification
A. Karl | Rolls-Royce Corporation

11:30am **Sources of Variability in Fatigue Crack Growth Modeling Validation**
Adrian Loghin | Simmetrix Inc.

12:00pm **Toward Broad Use of Computers for Engineering - How Collaborative R&D Led to Monte Carlo Simulation**
Gene Allen | Decision Incite LLC

12:30pm **Role of Simulation Governance in Zero-Emission Marine**
Juho Könnö | University of Oulu

TRACK F — Room 206

F1 - Short Course

Composites
Tony Abbey | FETraining

TRACK G — Room 207

G1 - Verification & Validation
K. Meintjes, NAFEMS Technical Fellow

Simulation of Real World Events for ADAS - PCA Feature Validation
Satyajeet Shinde | Ford Motor Company

Validation of Finite Element Models for Orthodontic Aligners
Ning Ye | Minnesota Dental Research Center for Biomaterials and Biomechanics

Trends in Simulation Governance: Management of Models and Processes
Peter Langsten | Predict Change

TRACK H — Room 208

H1 - Short Course

CFD for Structural Designers and Analysts
Kamran Fouladi | InfoMec Consulting

1.00pm LUNCH - SAGAMORE BALLROOM 3-4

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DAY 1 AFTERNOON SESSIONS Tuesday June 21st | 2:00pm - 5:30pm

	TRACK A Room 201	TRACK B Room 202	TRACK C Room 203	TRACK D Room 204
	A2 - Topology Optimization M. Ladzinski | Ansys Government Initiatives	**B2 - Digital Threads & Digital Twins** J. Castro | The Boeing Company	**C2 - AI-Guided Simulation** M. Muttulingam | The Boeing Company	**D2 - Automotive Simulation** M. Felice | virsolTech Engineering Consulting, LLC
2.00pm	**Topometry Optimization: From Conceptual Designs to Detail Designs** Juan Pablo Leiva | OmniQuest	**Intelligent Cascading Requirements and Simulation-Driven V&V within the Connected Digital Thread** Malcolm Panthaki | ARAS Corporation	**Physics-Based Machine Learning for Product Design and Condition Monitoring** Cheng Yu | Caterpillar, Inc.	**Simulation of Autonomous Obstacle Avoidance for Tracked Vehicles on Soft Soils** Nelson Woo | EnginSoft USA
2.30pm	**Next Steps in Generative Design: Optimization of Thin Structures** David Weinberg | Autodesk Inc.	**Simulation Based Digital Twin for Comminution Circuit** Chris Wolfe | Ansys, Inc.	**Accelerating Innovation Using Advanced Physics Informed Neural Networks (PINNs)** Shane Mooney | Kinetic Vision	**Optimizing Driver Assistance Feature Performance Using Deep Neural Networks** Karim Zouani | Ford Motor Company
3.00pm	**Towards Efficient and Effective Topology Optimization of Large-Scale Airframe Structures** Joshua Deaton | Air Force Research Laboratory	**From Single-Purpose Production Systems to Automated Manufacturing** Tonya Cole | Dassault Systèmes SIMULIA Corp	**Transformative ML Technology for Rapid CAE Meshing of Complex Subsystems** Prakash Krishnaswamy | Xitadel Group	**Vehicle BIW Design and Optimization with CAE Parametric Technology** Rajasekaran Mohan | Detroit Engineered Products
3.30pm	BREAK - SAGAMORE BALLROOM 5-7			
	A3 - Risk Management & Credibility M. Ladzinski | Ansys Government Initiatives	**B3 - Multiscale** S. Arnold | NASA Glenn Research Center	**C3 - Reduced Order / Surrogate Modeling** R. Keene | Consultant	**D3 - Contact, Joints, Welds & Connections** J. Castro | The Boeing Company
4.00pm	**Informing Model End-Users in Industry on the Credibility of Predictions** Jakob Hartl | Purdue University	**An Accurate Prediction of the Lifetime of Reinforced Thermoplastic Parts Based on a Multi-Scale Material Modeling Approach** Pierre-Yves Lavertu | Hexagon	**Modeling of Hybrid Bonding Process in Next Generation 3DICs** Arkaprabha Sengupta | Ansys, Inc.	**Multidisciplinary Spotweld and Adhesive Optimization** Vasanth Gandhi | BETA CAE Systems USA, Inc.
4.30pm	**Recommended Industry Practices to Promote and Support Airframe Structures Modeling & Simulation for Certification** John Vandeventer | The Boeing Company	**Multiscale Modeling: Failure Analysis of a Notched Fiber Reinforced Laminate** Deepak Kumar Patel | Dassault Systèmes SIMULIA Corp	**AI & ML: New Paradigm in CAE and Test Data Analytics** Divesh Mittal | ETA Engineering Tech. Assoc.	**Bolt Loosening Analysis in Industrial Tasks with Sophisticated Bolt Thread Approach** Mike Sheh | INTES GmbH
5.00pm	**Optimal Stopping of Fatigue Testing** Tero Frondelius | University of Oulu	**Hybrid 3D-1D Models for Particulate Systems** Arno Mayrhofer | DCS Computing GmbH	**Enhanced Full System NVH Designs Using Reduced Model Integration** Vageswar Akula | BETA CAE Systems USA, Inc.	**Considerations in Selecting between Continuum and Cohesive Type Finite Element Material Models for Mechanics Simulations of Adhesively Bonded Constructions** Brian Clark | 3M Company
5.45pm	EVENING RECEPTION - SAGAMORE BALLROOM 5-7			

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DAY 1 AFTERNOON SESSIONS Tuesday June 21st | 2:00pm - 5:30pm

	TRACK E Room 205	TRACK F Room 206	TRACK G Room 207	TRACK H Room 208
	E2 - Dynamics T. Morris | NAFEMS	**F2 - Workshop**	**G2 - Simulation Governance** Simulation Governance & Management Working Group	**H2 - Short Course**
2.00pm	**Efficient Numerical Analysis of the Mode Lock-In Phenomenon for Friction Induced Vibration** Devashish Sarkar | Ansys, Inc.	**Multiphysics Analysis of an In-Wheel Traction Motor** John Wanjiku | Siemens Digital Industries Software	**The Spectrum of Validation Methods** Alexander Karl | Rolls-Royce	**Introduction to Practical CFD** Kamran Fouladi | InfoMec Consulting
2.30pm	**Vibration Based Fatigue Assessment of Critical Components under Full System NVH Loads Using Dirlik Method** Savitri Bhatta | BETA CAE Systems USA, Inc.		**Implementing Measures of Simulation Confidence and Maturity** Gregory Westwater | Fisher Controls International LLC	
3.00pm	**First Latin American Laboratory for Virtual Structural Tests in Transport Seats** Jorge Luis Cepeda | COINAV S.A.		**Panel Discussion:** **Simulation Credibility in the Age of Digitalization** Keith Meintjes | CIMdata	
3.30pm	BREAK - SAGAMORE BALLROOM 5-7			
	E3 - Workshop Stochastics Working Group	**F3 - Workshop**	**G3 - Panel Discussion**	**H3 - Short Course**
4.00pm	**Stochastics Challenge Problems: Including Data Uncertainty in Probabilistic Solutions** David Riha | Southwest Research Institute	**Case Studies in High Performance Computing for CAE with Clusters and Cloud** Rod Mach | TotalCAE	**Challenges of Simulation Technologies in a Fast-Changing Automotive World** Mario Felice | virsolTech Engineering Consulting, LLC	**Elements of Turbulence Modeling** Kamran Fouladi | InfoMec Consulting
4.30pm				
5.00pm				
5.45pm	EVENING RECEPTION - SAGAMORE BALLROOM 5-7			

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DAY 2 MORNING SESSIONS

Wednesday June 22nd | 8.45am - 12.30pm

8.45am **Opening Day 2** Rodney Dreisbach | NAFEMS Technical Fellow | Council Member | Chair of the Americas Steering Committee

PLENARY SESSION 2 R. Dreisbach | NAFEMS Technical Fellow — Sagamore Ballroom 3-4

9:00am **Optimization, Machine Learning, & Digital Thread in Structures: Perspective from Boeing** Vladimir Balabanov | The Boeing Company

9.45am **Connected and Data Driven - Model Based Systems Engineering, Simulation and System Adaptation** Chris Davey | Ford Motor Company

10.30am BREAK - SAGAMORE BALLROOM 5-7

	TRACK A — Room 201	TRACK B — Room 202	TRACK C — Room 203	TRACK D — Room 204
	A4 - CFD M. Reis | ESSS	**B4 - Methods** R. Keene | Consultant	**C4 - Multiphysics** T. Morris | NAFEMS	**D4 - Optimization** M. Ladzinski | Ansys Government Initiatives
11.00am	**Implementation of Pressure Boundary Conditions for Particle CFD Methods** James Crist | EnginSoft USA	**Isogeometric Analysis: Accelerating Simulation Workflows for Challenging Nonlinear Problems** Gregory Vernon | Coreform LLC	**Simulation of Coaxial Helicopter Rotor System with 2-way Fluid Structure Interaction** Scott Marinus | Ansys, Inc.	**Thermally Optimizing a High-Power PCB for Battery Powered Applications** Yun Dai | Cadence Design Systems, Inc.
11.30am	**Best Practices in Using a Semi-Mechanistic Boiling Model for Conjugate Heat Transfer Predictions** Muhammad Sami | Ansys Inc.	**Efficient Large Assembly Modeling Using Modules** Hanson Chang | Hexagon	**Numerical Modeling and Simulation of Magnetic Gears** Sandeep Medikonda | Ansys, Inc.	**Multidisciplinary Design Analysis and Optimization of Large Assemblies** Justin Rey | MIT Lincoln
12.00pm		**An Efficient Adaptive Sampling Strategy for Accurate Global Metamodeling** Zhendan Xue | ESTECO North America, Inc.		

12.30pm LUNCH - SAGAMORE BALLROOM 3-4

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DAY 2 MORNING SESSIONS

Wednesday June 22nd | 8.45am - 12.30pm

10.30am BREAK - SAGAMORE BALLROOM 5-7

	TRACK E Room 205	TRACK F Room 206	TRACK G Room 207	TRACK H Room 208
	E4 - Workshop	**F4 - Short Course**	**G4 - Workshop** **Engineering Data Science Working Group**	**H4 - Workshop**
11.00am	**Simulation's Deep State - How Simulation is Under Utilized and Over Sold - After 50 Years of Development** Mark Zebrowski | Consultant (Ford Motor Company, Retired)	**Effective Postprocessing of Structural Analyses** Tony Abbey | FETraining	**Machine Learning for Engineering Design with Demonstrations** Fatma Kocer | Altair Engineering, Inc.	**The Democratization of Multiscale Modeling** Jeff Wollschlager | Altair Engineering, Inc.
11.30am				
12.00pm				

12.30pm LUNCH - SAGAMORE BALLROOM 3-4

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DAY 2 AFTERNOON SESSIONS Wednesday June 22nd | 1.30pm - 5.00pm

	TRACK A Room 201	TRACK B Room 202	TRACK C Room 203	TRACK D Room 204
	A5 - CFD 2 M. Reis | ESSS	**B5 - Durability & Damage Tolerance** D. Detwiler | Honda Development & Manufacturing of America	**C5 - Multiphysics 2** M. Ladzinski | Ansys Government Initiatives	**D5 - Panel Discussion**
1.30pm	**How Variations in the Bulk Properties of Grain Affect Airflow Patterns in Storage Bins** Ian Paulson | Prairie Agricultural Machinery Institute	**Swept Sine on Random Durability Simulations for Electric Vehicle Applications** Jeff Mentley | HBM Prenscia nCode	**Modeling Electrothermal Effects, Wind Loading & Induced Vibration Effects on Street Light Poles with Mounted 5G Mobile Network EDGE Compute Nodes** Paul Hutcheson | Ansys Hellas S.A.	**Integrating Additive Manufacturing and Optimization** Tim Marler NAFEMS Optimization Working Group Member | RAND Corporation
2.00pm	**Development and Democratization of Simulation Based Swirl Atomizer Development Processes** Tobias Gloesslein | ESTECO Software GmbH	**Guidelines for the Verification of Frequency Domain Fatigue Analysis by Its Corresponding Representation in the Time Domain** Zhi Yuan | Dassault Systèmes SIMULIA Corp	**Investigation into Distortion of Long-Span Zirconia Dental Bridges induced by Sintering** Alex Fok | Minnesota Dental Research Center for Biomaterials and Biomechanics	
2.30pm		**Fatigue Analysis of 6 Channel Road Load Input to a Rubber Mount** William V. Mars | Endurica	**A Simulation-Based Digital Design Methodology for Studying Conjugate Heat Transfer in a Tundish for Continuous Casting Applications** Christian Windisch | Siemens Digital Industries Software	
3.00pm	BREAK - SAGAMORE BALLROOM 5-7			
	A6 - Advanced Materials Engineering S. Arnold | NASA Glenn Research Center	**B6 - MBE (Model-Based Engineering)** K. Zouani | Ford Motor Company	**C6 - Multiphysics 3** M. Reis | ESSS	**D6 - Business Impact** Business Impact Working Group
3.30pm	**Advanced Testing and Material Modeling of Polymers** Sean Teller | Veryst Engineering LLC	**Virtual Validation of Intelligent Lighting Features** Vijit Dubey | Ford Motor Company	**Using Solid-Gas Co-Simulation as a Tool to Understand the Impact of Maintenance and Operational Choices on the Performance of Pneumatic Conveying System in Modern Agricultural Air Drills** Ian Paulson | Prairie Agricultural Machinery Institute	**How to Justify Greater Use of Engineering Simulation and Best Practices for Deployment** Roger Keene | Consultant
4.00pm	**Design Synthesis of Architected Materials** Andreas Vlahinos | Advanced Engineering Solutions LLC	**System Drive Simulation within the SAIC Digital Engineering Ecosystem** Dave Ewing | SAIC	**Multiphysics Simulation of Melt Pool During the Selective Laser Sintering Process** Hao-Ping Yen | Technical University of Denmark DTU	**How Do Large Companies Get the Best Value from Their NAFEMS Membership?** Mario Felice | virsolTech Engineering Consulting, LLC
4.30pm		**Utilizing Model Based Engineering (MBE) Concepts to Link Design Elements and Analysis Capabilities** Mayuran Muttulingam | The Boeing Company	**Multi-Plate Joint Finite Element Modelling for Aircraft Secondary Structure GFEM** Partha Dey | Collins Aerospace India	**Simulation: A Strategic Business Investment (Panel Discussion)** Roger Keene | Consultant
6.00pm	EVENING DINNER - SAGAMORE BALLROOM 3-4			

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DAY 2 AFTERNOON SESSIONS Wednesday June 22nd | 1.30pm - 5.00pm

	TRACK E Room 205	TRACK F Room 206	TRACK G Room 207	TRACK H Room 208
	E5 - Short Course Stochastics Working Group	**F5 - Short Course**	**G5 - Panel Discussion**	**H5 - Democratization** M. Panthaki | Rev-Sim
1.30pm	**Probabilistic Analysis Methods and Approaches for PSE in Probabilistic Analysis** David Riha | Southwest Research Institute	**Nonlinear Analysis** Tony Abbey | FETraining	**The Role of System Simulation-Driven Engineering in Our Current Business Environment** Frank Popielas | SMS_ThinkTank	**How Democratization of Excel-Based Calculators Helps GKN Engineers to Sleep Better** Gavin Streather | GKN Driveline North America
2.00pm				**Evolving to Help Engineers Develop Methods that Greatly Increase Productivity** Chris Wolfe | Ansys, Inc.
2.30pm				**Performance Driven Concept Engineering for Future of Mobility** Prateek Patil | DS Americas Corp.
3.00pm	BREAK - SAGAMORE BALLROOM 5-7			
	E6 - Workshop	**F6 - Short Course**	**G6 - Panel Discussion** Computational Structural Mechanics Working Group	**H6 - Democratization 2** M. Panthaki | Rev-Sim
3.30pm	**Why Perform High Fidelity Electrical Vehicle Thermal Management for Accurately Predicting Performance?** Darren Nunes | Siemens Digital Industries Software	**Dynamic Finite Element Analysis** Tony Abbey | FETraining	**Modeling Structural Failure: A Guided Discussion** Steven Huston | Club Car	**Use of Automation and Customization to Facilitate Democratization** Gregory Westwater | Fisher Controls International LLC
4.00pm				**Reusable Model Data for Electric Drive Development** Young-Chang Cho | Dassault Systèmes
4.30pm				**CAE Results Processing & Reporting Digital Transformation for Simulation Democratization** Prasad Mandava | Visual Collaboration Technologies, Inc.
6.00pm	EVENING DINNER - SAGAMORE BALLROOM 3-4			

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DAY 3 MORNING SESSIONS

Thursday June 23rd | 8.30am - 1.45pm

8.30am **Opening Day 3** Rodney Dreisbach | NAFEMS Technical Fellow | Council Member | Chair of the Americas Steering Committee

PLENARY SESSION 3 R. Dreisbach | NAFEMS Technical Fellow — Sagamore Ballroom 3-4

8.45am **Changing a Product Development Culture from "Test Focused" to "Simulation-Led" - Sharing the Keys to Caterpillar's Success in Achieving This Change** Darrel Meffert | Caterpillar, Inc.

9.30am **Practical Implementation of Digital Twins for Today and Tomorrow** Steven Wellborn | Rolls-Royce Corporation

10.15am BREAK - SAGAMORE BALLROOM 5-7

TRACK A — Room 201

A7 - Workflows & Cosimulation
D. Detwiler | Honda Development & Manufacturing of America

10.45am **FEM Workflow Automation Applied to Robust Hot Spot Technique Evaluation**
Robert Bennett | MTech

11.15am **Simulation-Driven Workflows to Design an Optimized Rear Impact Guard Meeting FMVSS Standard**
Benjamin Beckelynck | Optimec Consultants Inc

11.45am **Implementing Multi-FMU Simulation with a Co-Simulation Platform**
Matthieu Jude | Chiastek France

TRACK B — Room 202

B7 - Medical Devices
L. Knudsen | Zimmer Biomet

10.45am **Humidification of Breathing Gases for Mechanically-Ventilated Patients**
Christopher Varga | Vyaire Medical

11.15am **An Additive Manufacturing-Oriented Design Approach: Hip Joint Case Study**
Lakshana Mohee | Ansys UK

11.45am **Modeling pMDI Full Human Respiratory Tract Drug Deposition in Adults and Children Using CFD**
Peter Harley | Crux Product Design

TRACK C — Room 203

C7 - Predictive Analytics
M. Felice | virsolTech Engineering Consulting, LLC

10.45am **Critical Asset Predictive Maintenance with Data-Driven and Physics-Based Simulation Software**
Alexander Warning | Novity, a Xerox PARC venture

11.15am **Visualizing Mechanical Variation through Simulation and Validation: Taking the Guesswork out of Manufacturing**
Stephen Werst | Sigmetrix

11.45am **Analysis and Simulation of Your Engineering License for Better Negotiations**
Linda Cole | Open iT, Inc.

TRACK D — Room 204

D7 - Panel Discussion

10.45am **Generative Design: What Is It and Why Does It Matter?**
Tim Marler
NAFEMS Optimization Working Group Member | RAND Corporation

12.15pm BREAK (BOX LUNCH) - SAGAMORE BALLROOM 3-4

12.45pm **Conference Wrap-up - Sagamore Ballroom 3-4**
Rodney Dreisbach | NAFEMS Technical Fellow | Council Member | Chair of the Americas Steering Committee

1.45pm CONFERENCE ENDS

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DAY 3 MORNING SESSIONS

Thursday June 23rd | 8.30am - 1.45pm

10.15am BREAK - SAGAMORE BALLROOM 5-7

	TRACK E Room 205	TRACK F Room 206
	E7 - Integration of Physical Test with Analysis & Simulation F. Popielas | SMS_ThinkTank	**F7 - Short Course**
10.45am	**Hitched: Trailer Load Calculation Using Load Reconstruction** Cynde Murphy | Wolf Star Technologies	**Fatigue Analysis** Tony Abbey | FETraining
11.15am	**Leverage Cell Abuse Testing and Simulation Data for Pack Level Thermal Runaway Analysis** John Wilson | Siemens Digital Industries Software	
11.45am	**How Electric Vehicle Power Units Are Transformed with Upfront Digital Technology** Tom Oetjens | Dimensional Control Systems, Inc.	

12.15pm BREAK (BOX LUNCH) - SAGAMORE BALLROOM 3-4

12.45pm

1.45pm CONFERENCE ENDS

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10 Wolf Star Technologies
11 Penguin Computing
12 ESTECO
13 Hexagon
14 BETA Simulation Solutions
15 Aras
16 RecurDyn
17 VCollab
18 Kinetic Vision
19 Rescale

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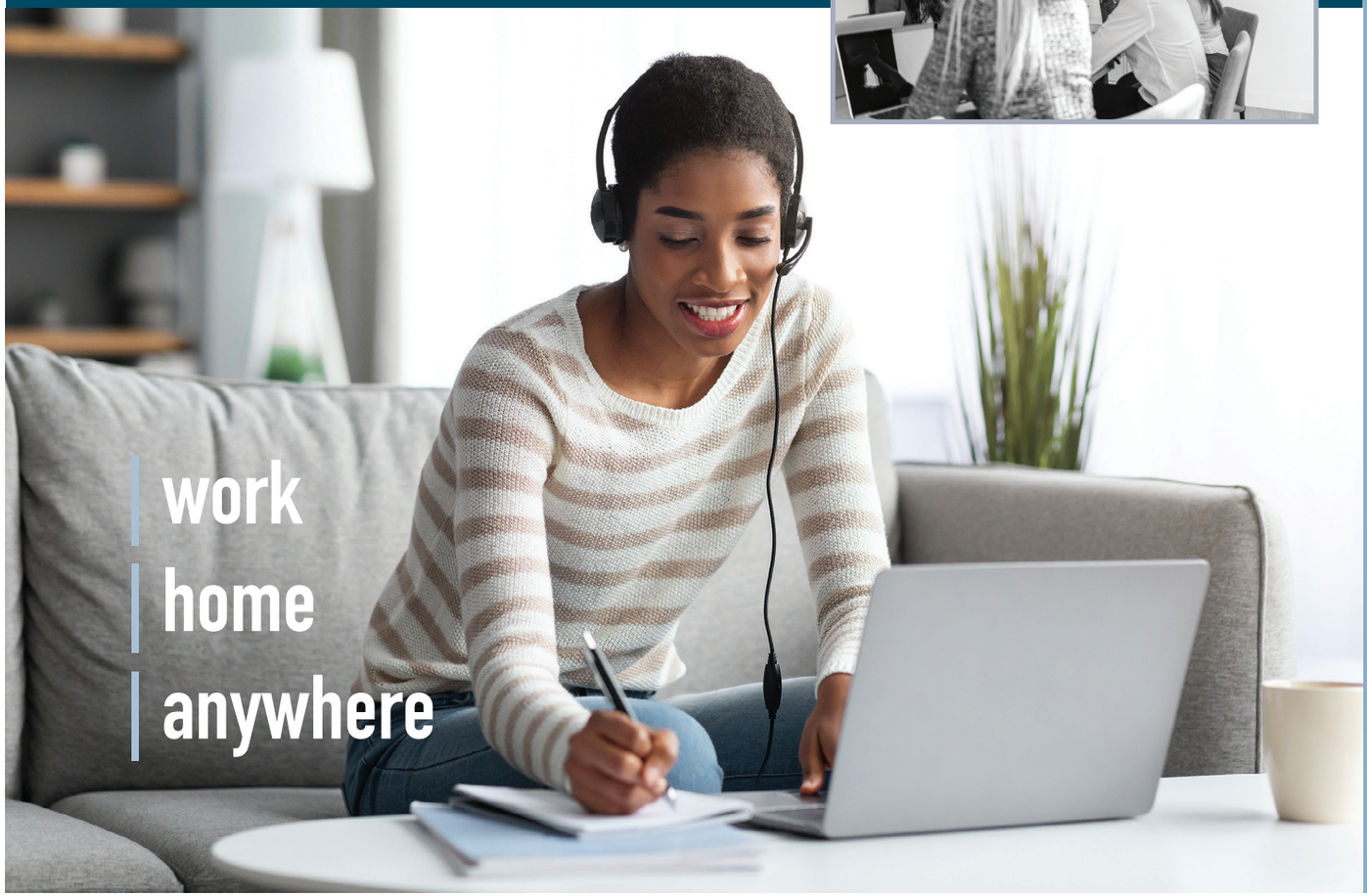

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