

Agenda: Advanced Seminars

Day 1 | Tuesday, April 30, 2024

Register and read full abstracts [here](#)

8:30 AM	Registration, Coffee & Breakfast	
9:00 AM	Morning Sessions	
12:15 PM	Lunch	
1:15 PM	Afternoon Sessions	
Room	Topic	Sessions & Descriptions (Please note: Agendas are subject to change)
GOLD 9:00-4:30	Structures	<ul style="list-style-type: none"> Session 1: Fast Iterations for Structural Design & Simulation Session 2: Automate Simulation Model Build on Large Assemblies Session 3: Contact and Convergence in Abaqus/Standard
SILVER 9:00-4:30	Electromagnetics	<ul style="list-style-type: none"> Session 1: CST Studio Suite and OPERA: Model Creation and Solver Basics Session 2: Antenna Simulations for 5G/6G and IOT Session 3: EMC/EMI Simulations to Improve Your Pass Rate Session 4: Simulation Democratization Using Custom Dashboards on the 3DEXPERIENCE Platform
BRONZE 9:00-4:30	Multibody System Dynamics / Motion	<ul style="list-style-type: none"> Session 1: Multibody and Motion State of Technology Session 2: Advanced Topics I – Simpack Abaqus Co-Simulation and Contact Session 3: Advanced Topics II – Simpack Database Introduction and Realtime Technology Application Session 4: Advanced Topics III – Motorcycle Application
PEARL 9:00-12:15	Fluids	<ul style="list-style-type: none"> Session 1: Reduce Vehicle Time to Market with Our Fluids Solutions Session 2: Machine Learning to Enhance Our Fluids Solutions Session 3: MODSIM Process for Stent Deployment
COPPER 9:00-12:15	Materials & Mechanics	A key ingredient to successful and accurate nonlinear FE simulation is an accurate material model. This seminar will introduce the 3DEXPERIENCE Material Calibration app and summarize the many Abaqus material modeling enhancements over the last several years. The calibration app is used to determine material parameter values in an interactive optimization-based framework. The continued advancement in Abaqus materials models allow you to model nonlinear materials with more realistic physics.
COPPER 1:15-4:30	Fatigue	There are many different fatigue calculation algorithms available in fe-safe. These algorithms can be categorized into stress-based, strain-based and DTMF (Damage based Thermo-Mechanical Fatigue). Another categorization can be crack-initiation criterion vs. crack-propagation criterion. Crack-initiation criterion based fatigue calculation uses a traditional Miner's rule, and crack-propagation criterion uses the fracture mechanics theory to calculate the propagation of an initiated crack on the surface. The TCD method is a well-known crack-propagation criterion algorithm available in fe-safe. We will discuss the theoretical background with a few examples for most of the fatigue calculation algorithms available in fe-safe with more focus on new and advanced algorithms such as DTMF and TCD.
CORAL 9:00-12:15	Electromechanical	<p>In this seminar, 4 workflows with a focus on Electromechanical multiphysics simulations will be presented:</p> <ul style="list-style-type: none"> Session 1: High Speed Connector Modeling Session 2: Capacitor Acoustics Session 3: Semiconductor ECAD – MCAD Session 4: Coupled Analysis
CORAL 1:15-4:30	Batteries	<p>In this two-part seminar, we will present our advanced multiscale simulation technologies to systematically address and overcome these challenges in battery development:</p> <ul style="list-style-type: none"> Session 1: The Molecular Scale: Driving Innovation in Li-Ion Battery Material Development with Material Simulation and Laboratory Informatics Session 2: The Engineering Scale: Diving Innovation in Li-Ion Battery Cell/Module/Pack Development with Multiphysics Simulation
JADE 9:00-12:15	Cloud, Solvers & HPC	<p>The Cloud, Solvers & HPC Special Interest Group will include:</p> <ul style="list-style-type: none"> Cloud: 3DS SaaS cloud compute offerings, 3DS SaaS 24x compute updates; do you know we have managed DSLS? Solvers: Abaqus Explicit/Standard performance updates; CST performance updates HPC: Let's get back to the basics - troubleshooting and benchmarking guides; trends
JADE 1:15-4:30	Automation & Optimization	Learn from Dassault Systèmes experts about the latest advances in automation and democratization of engineering processes, single- and multidiscipline design exploration, and leveraging the 3DEXPERIENCE platform to capture, trace and manage data and collaborate within your engineering ecosystem.

Conference Agenda

Day 2 | Wednesday, May 1, 2024

Register or learn more [here](#)

8:30 AM	Registration, Coffee & Breakfast						
9:15 AM	Welcome & Opening Remarks: <i>Shashank Aggarwal, Dassault Systèmes</i>						
9:30 AM	SIMULIA Brand Update: <i>Sebastien Gautier, Dassault Systèmes</i>						
10:00 AM	Keynote Presentation: Achieving Large Scale Detailed Component Level Structural Simulations, <i>Mark Taylor, The Boeing Company</i>						
10:30 AM	Morning Break in Sponsor Exhibit Area and 3DEXPERIENCE Playground						
11:00 AM	Keynote Presentation: Battery Cell and Pack Synthesis: Simulation Leading Design, <i>Faisal Sayeed & Saurabh Bahuguna, General Motors</i>						
11:30 AM	Keynote Presentation: Democratization of Simulation for Accelerated Medical Device Development, <i>Dr. Suzanne Ferreri, BD</i>						
12:00 PM	SIMULIA Leadership Q&A						
12:30 PM	Lunch – Sponsor Exhibit Area & Playground Open – Sponsored by GoEngineer						
	Track 1 – GOLD Partner Session	Track 2 – SILVER Partner Session	Track 3 – COPPER Partner Session				
1:40 PM	Sustainable CAE High Performance Computing Infrastructure Solutions from HPE and AMD, <i>Tony DeVarco, HPE, and Rick Knoechel, AMD</i>	Maximizing Impact of Abaqus, fe-safe & CST Results with Smart Results Processing, Digital 3D Reporting, Visual Collaboration, and Interactive Rapid Results Reviews, <i>Prasad Mandava, VCollab</i>	Understanding Helicopter Loads, <i>Tim Hunter, Wolf Star Technologies LLC</i>				
	Track 1 – GOLD Structures	Track 2 – SILVER Structures II	Track 3 – COPPER Structures III	Track 4 – BRONZE Vibro-Acoustics	Track 5 – GRANITE Electromagnetics	Track 6 – PEARL Fluids	Track 7 – CORAL Modeling & Simulation
2:00 PM	Heat Transfer Analysis of Spray-Applied Fire Resistive Material (SFRM) Protected Steel Columns, <i>Zheng (James) Peng, FM Global</i>	Data-Driven and Physics-Based Analysis of Downhole Tools – Packer Application, <i>Shabeir Pirayeh Gar, Halliburton Co.</i>	Abaqus User Element (UEL) Implementation of Time-Dependent Constitutive Behavior of Dielectric Elastomers, <i>Kamalendu Ghosh, KLA Corp.</i>	Simulation of Loudspeakers in Vehicle Audio Systems Using Wave6, <i>Wenlong Yang, General Motors</i>	Thermal-Mechanical + Electromagnetic Full-Wave Simulation: A Multiphysics Product Validation Workflow Using Abaqus + CST, <i>Thomas Schlitt & Clint Patton, GoEngineer</i>	HVAC Cooldown Simulation of a Compact Excavator Using SIMULIA PowerFLOW, <i>Alan Perrault, Doosan Bobcat</i>	Project Gamma Advanced Analysis Features, <i>Jason Action, Lockheed Martin</i>
2:30 PM	Electrode Calendaring Simulation with Abaqus Explicit, <i>Haiyan Li, General Motors</i>	Design & Development of Deepwater Active Control Device (ACD) Seal Sleeves Using Abaqus Hyperelastic Simulations, <i>Saravanan Sundaramoorthy, NOV Inc.</i>	High Strain Rate Impacts on Ultra High-Performance Concrete Using a Finite Strain HJC Concrete Model, <i>Youssef Hammi, Mississippi State University</i>	Auralization of the Sound from Microswitches Using Abaqus and wave6, <i>Luca Francesconi and Nuno Valverde, Logitech</i>	3D Electromagnetic Design and Mechanical Failure Analysis of Membrane Supported Antennas Operating Over 100 GHz Using CST MWS and Abaqus, <i>Stefan Castravete, Caelynx Europe</i>	Kenworth T680 Next Gen Development Using PowerFLOW, <i>Scott Temple, Kenworth Truck Co.</i>	Aerospace Structures Simulation Analysis Process and Data Management, <i>Kenneth Dang & Chandra Subraya, The Boeing Company</i>
3:00 PM	Afternoon Break in Sponsor Exhibit Area and 3DEXPERIENCE Playground						
3:30 PM	FEA-Based Level 3 Assessment of Deformed Tanks with Fluid Induced Loads, <i>Arindam Chakraborty, VIAS3D</i>	Novel Approach to Braided Wire Stent Simulation, <i>Paul Jermihov, TriMech Solutions LLC</i>	Long Fiber Composite Part Performance Predictions: Using FEA and Nonlinear Anisotropic Material Models, <i>Zach Alderman & Mike Dillman, Avient</i>	Simulation Driven Design of NOMAD’s BESS duct system using CFD and Parametric Design Study, <i>Benjamin Beckelynck Optimec Consultants</i>	Signal Integrity Analysis for an eMMC Memory Using PCBs and Packages Module, <i>Radu Voina, Optimal Designs, & Marcel Manofu, Continental Automotive Romania</i>	Transient Aerodynamics Simulations of a Passenger Vehicle During Deployment of Rear Spoiler, <i>Henry Tuit Farquhar, General Motors</i>	Using the Latest 3D Printing Technology to Accelerate the Digital-First Process, <i>Brent Vorst, Kinetic Vision</i>
	SIMULIA Updates I	SIMULIA Updates II	SIMULIA Updates III	SIMULIA Updates IV	SIMULIA Updates V	SIMULIA Updates VI	SIMULIA Updates VII
4:00 PM	Structures • Introduction • Abaqus Nonlinear Mechanics • Abaqus Linear Dynamics, Solver Performance & HPC Update	Multibody System Dynamics • Latest Simpack technology capabilities • Introduction and updates to the 3DEXPERIENCE Motion portfolio using parametric and nonparametric techniques	Automation & Optimization • Latest advances in automation and democratization of engineering processes • Single- and multidiscipline design exploration	Vibro-Acoustics • wave6 updates	Electromagnetics • 2024 release highlights • 2025 & beyond: a roadmap • Electrical Machine Design app • AI/ML for electromagnetics • Electromagnetics simulation on the 3DEXPERIENCE Cloud	Fluids • New capabilities and release highlights • Latest PowerFLOW updates for 3DEXPERIENCE Cloud & GPU computing	Modeling & Simulation • Stamping simulation with MODSIM • Improve packaging and sustainability with MODSIM
5:00 PM	Evening Reception in Sponsor Exhibit Area and 3DEXPERIENCE Playground						

Conference Agenda

Day 3 | Thursday, May 2, 2024

Register or learn more [here](#)

8:30 AM	Registration, Coffee & Breakfast							
9:15 AM	Welcome & Opening Remarks: <i>Shashank Aggarwal, Dassault Systèmes</i>							
9:30 AM	Plenary: Transformation Through Modeling & Simulation, <i>Ramji Kamakoti, Dassault Systèmes</i>							
10:00 AM	Keynote Presentation: Powering the Future: How Can Simulation Drive Energy Transition? <i>Ali Marzban, NOV</i>							
10:30 AM	Keynote Presentation: Virtual Testing, Simulation and Validation: A Material Supplier's Perspective, <i>Jameson Fee, Celanese</i>							
11:00 AM	Morning Break in Sponsor Exhibit Area and 3DEXPERIENCE Playground							
11:30 AM	Keynote Presentation: Physics-Informed Machine Learning for Engineering Applications, <i>George Karniadakis, Brown University</i>							
12:00 PM	Plenary: AI-Enhanced MODSIM for Design Exploration, <i>Victor Oancea, Dassault Systèmes</i>							
12:30 PM	Q&A: Artificial Intelligence & Machine Learning, <i>Brown University & Dassault Systèmes</i>							
12:50 PM	Lunch – Sponsor Exhibit Area & Playground Open – Sponsored by HPE/AMD							
	Track 1 – GOLD Partner Session	Track 2 – SILVER Partner Session	Track 3 – COPPER Partner Session					
1:50 PM	Navigating Complexity: The Role of Trusted Partners and VIAS3D in Dassault Systèmes' Ecosystem, <i>Shawn Freeman, VIAS3D</i>	Computing Tire Durability from Multibody Dynamics Simulation of Nürburgring Circuit Events, <i>Thomas Ebbott, Endurica</i>	Crossing the Line: Combining Topology Optimization, Fiber-Filled Injection Molding, and Structural Analysis, <i>Matt Sherak, GoEngineer</i>					
	Track 1 – GOLD Structures	Track 2 – SILVER Structures II	Track 3 – COPPER Fluids	Track 4 – BRONZE Vibro-Acoustics	Track 5 – GRANITE Modeling & Simulation	Track 6 – PEARL Fluids II	Track 7 – CORAL Multibody System Dynamics	
2:10 PM	Innovating Geothermal Frontiers: NOV's Technological Drive Toward Sustainable Energy Excellence, <i>Jerry Wong, NOV Inc.</i>	Enhancing Safety and Efficiency in Heavy Machinery: A Novel CAE-Based Approach for ANSI Multi-Impact Validation, <i>Arshad Khan, CNH Industrial</i>	Computational Aeroacoustics Modeling of Cold End Exhaust Sub-System, <i>Figen Lacin, Tenneco</i>	Using wave6 to Optimize Acoustic Covers on Powertrain Components in Order to Reduce Radiated Noise, <i>Ricardo De Alba Alvarez, Ford Motor Co.</i>		Correlation of PowerFLOW Soiling Simulation Results with Wind Tunnel Tests, <i>Navid Omidvar, Rivian Automotive Inc.</i>	Automated Leaf Spring Suspension Modeler in Simpack, <i>Ameya Apte, General Motors</i>	
2:40 PM	Fracture Mechanics Fitness-for-Service Analysis Case Studies Using Abaqus and 3D Crack Meshes, <i>Greg Thorwald, Quest Integrity USA LLC & Baker Hughes</i>	Simulation of Laser Shock Processing on Specimens with Abaqus and fe-safe Software, <i>Vignaud Granados, Universidad Politécnica de Guanajuato</i>	Computational Modeling in the Advancement of Transcatheter Aortic Valve Replacement Technology, <i>Symon Reza, Stony Brook University</i>	Modeling Acoustic Transfer Functions in Trimmed Engine Bays Using wave6, <i>Chong Wang, General Motors</i>	Democratization of Advanced Simulation on the 3DEXPERIENCE Platform, <i>Tom Feister, TriMech Solutions LLC</i>	Transient Snowblower Simulations in SIMULIA XFlow, <i>Jamison Huber, Doosan Bobcat</i>	Leveraging MBD Models on VI-Grade Simulators, <i>Jeff Hodgkins, VI-Grade</i>	
	SIMULIA Updates I	SIMULIA Updates II	SIMULIA Updates III	SIMULIA Updates IV	SIMULIA Updates V	SIMULIA Updates VI	SIMULIA Updates VII	
3:10 PM	Structures • Abaqus Contact & Constraints	Battery Simulation • Overview of enhancements • Deterioration and aging, solid electrolytes, new elements	Multiphysics • Introduction to EOMYS & Manatee E-NVH software	Multiscale • Mean field homogenization technology • Injection molding simulation • Sequential workflow with mapping	Modeling & Simulation • 3DEXPERIENCE product release highlights	Fluids • Design efficient and quiet fan modules in cooling systems	Modeling & Simulation • MODSIM with SOLIDWORKS • Key customer highlights	
s3:40 PM	Return to Plenary: Wrap-up, Contests & Adjourn							