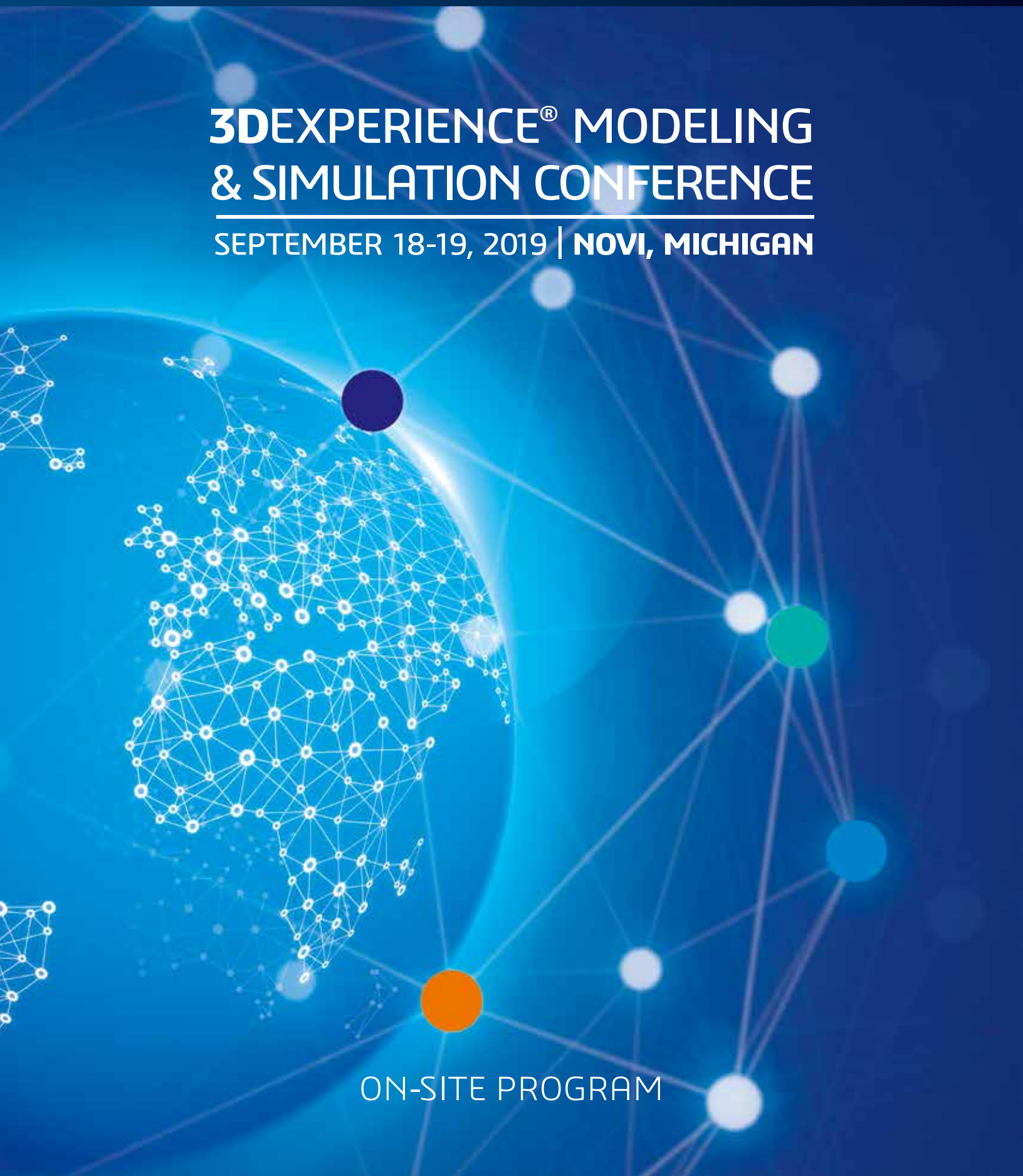
DASSAULT SYSTEMES

3DEXPERIENCE® MODELING & SIMULATION CONFERENCE

SEPTEMBER 18-19, 2019 | **NOVI, MICHIGAN**



ON-SITE PROGRAM

Hewlett Packard Enterprise | NVIDIA

Enhance your **3D**EXPERIENCE CATIA apps with high-performance HPE systems and NVIDIA® virtual GPU technology

Image courtesy Dassault Systèmes

Download the technical white paper today!

hpe.com/software-solutions/catia

August 2019

SPONSORS

Thank you to all of our Sponsors. Their sponsorship helps make this event a success.

PLATINUM SPONSOR

Hewlett Packard Enterprise

Hewlett Packard Enterprise (HPE) delivers a unified compute, visualisation and storage solution designed to simplify system management, reduce costs and complexity, and scale to deliver the performance needed for SIMULIA. Working jointly with NVIDIA, HPE provides a comprehensive portfolio of high-performance GPU enabled systems and software to help manufacturers implement through remote visualization **3DEXPERIENCE** CATIA apps for CAD environments.

GOLD SPONSOR

Endurica – Get Durability Right

Endurica is the global leader in fatigue analysis and testing solutions for elastomer durability. Get durability right, get durability sooner. We offer durability simulation software (Endurica CL™, Endurica DT™, Endurica EIE™, fe-safe/Rubber™), fatigue testing services and fatigue testing instruments, as well as training and consulting services.

SILVER SPONSOR

caelynx

TotalCAE

BRONZE SPONSOR

ThermoAnalytics

REVEAL THE WORLD, CONFERENCE BAG AND WIFI SPONSOR

intel

EXHIBITOR AND ROOM SPONSOR

vias – VIRTUAL INTEGRATED ANALYTICS SOLUTIONS

WOLF STAR TECHNOLOGIES

EXHIBITOR

Adaptive Corporation

axel – physical testing services

BARCROFT TECHNOLOGY

BETA – SIMULATION SOLUTIONS

DCS – ENGINEERING IN NEW DIMENSIONS

DEP MeshWorks

Front End Analytics – Delivering Business Advantage

Inceptra

NAFEMS

NOR-TECH – People Friendly Technology

NovaStar SOLUTIONS

PART Engineering

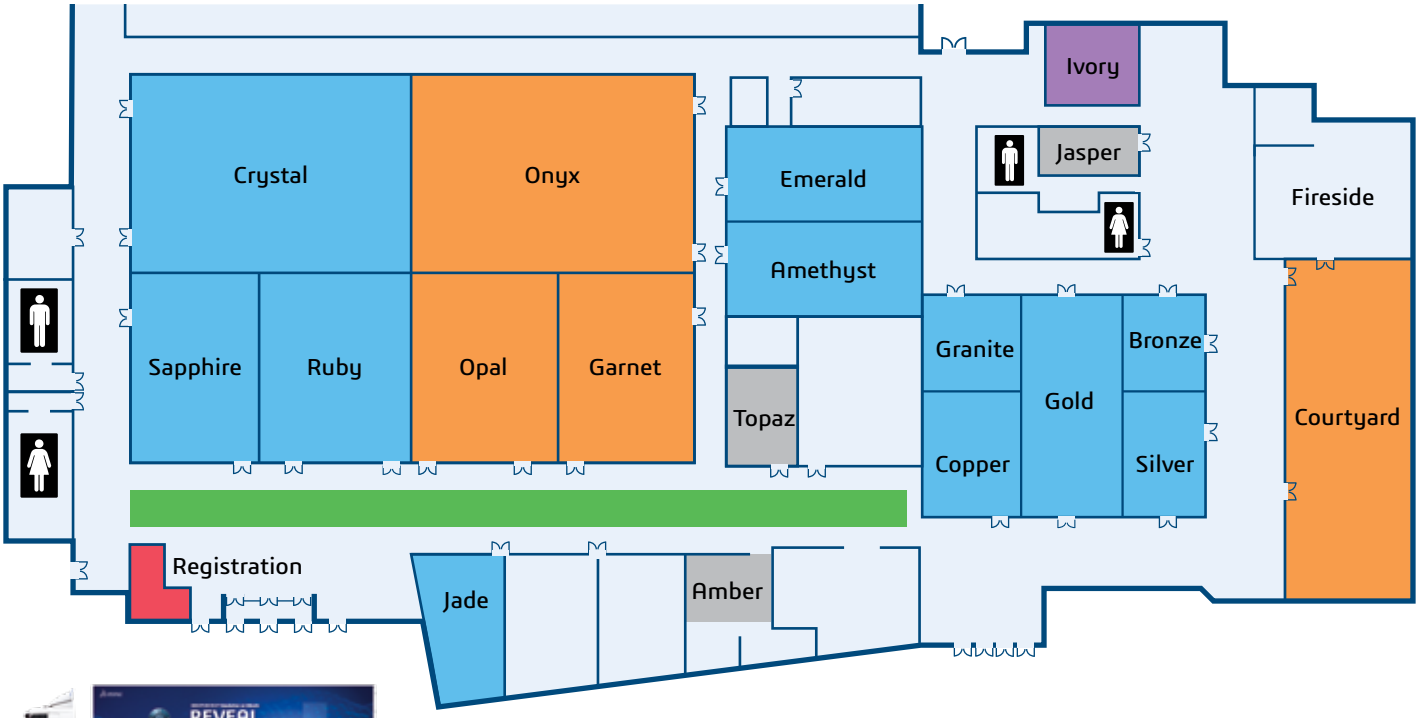
TATA TECHNOLOGIES

ROOM SPONSOR

sme

CONTENTS

VENUE MAP



3DEXPERIENCE Simulation on Wheels

MAP KEY
Plenary/Breakouts
Dining
Certification Exam (Jade)
User Feedback Sessions
Exhibit Area/Sponsors
Registration
Meeting Rooms
3DEXPERIENCE Simulation on Wheels: Reveal the World Tour (parking lot)

AGENDA OVERVIEW

AGENDA—WEDNESDAY, SEPTEMBER 18

8:30	**REGISTRATION AND CONTINENTAL BREAKFAST SPONSORED BY HEWLETT PACKARD ENTERPRISE**
10:00	**WELCOME**
10:05	**KEYNOTE SPEAKER:** Clifton Davies, Lockheed Martin Aeronautics, Aircraft Conceptual Design Using **3D**EXPERIENCE Simulation Process & Design Exploration Apps
10:35	**EXECUTIVE ROUNDTABLE:** Modeling and Simulation in the Age of Digital Transformation
11:15	**SUCCESS STORY:** The FINN Project—On the Road to Olympic Games: From Mod-Sim Optimization of a Composite Mast for Racing Application
11:35	**SPECIAL GUEST SPEAKER:** Dr. R. Byron Pipes, Purdue University, Simulation as the Language of Innovation—**3D**EXPERIENCE
12:00	**LUNCH SPONSORED BY ENDURICA**
1:30	**COMMUNITY BREAKOUT SESSIONS** *(sessions are 45 minutes)*
3:00	**BREAK SPONSORED BY THERMOANALYTICS**
3:30	**COMMUNITY BREAKOUT SESSIONS** *(sessions are 45 minutes)*
5:00–7:00	**NETWORKING RECEPTION SPONSORED BY HEWLETT PACKARD ENTERPRISE**

AGENDA—THURSDAY, SEPTEMBER 19

7:30	**REGISTRATION AND CONTINENTAL BREAKFAST SPONSORED BY TOTALCAE**
8:30	**COMMUNITY BREAKOUT SESSIONS** *(sessions are 45 minutes)*
10:00	**BREAK SPONSORED BY CAELYNX**
10:30	**WELCOME**
10:35	**KEYNOTE USER CHAMPION:** Jeswin Joseph Chankaramangalam, NIAR, Composite sUAS Simulation, Validation and Manufacturing on the **3D**EXPERIENCE Platform
10:55	Seamless Integration of Modeling & Simulation | Real World Application Examples Using the **3D**EXPERIENCE Platform
11:25	**CUSTOMER PRESENTATONS**
	Dr. Allan Zhong, Halliburton, On Formulations and Applications of Computational Modeling to Product Development in the Energy Sector
	Dr. Hansong Huang, Amcor Rigid Packaging, Sustainability and Innovation in Consumer Rigid Packaging Enabled by Simulation Driven Design
12:30	**LUNCH SPONSORED BY ENDURICA**
2:00	**COMMUNITY BREAKOUT SESSIONS** *(sessions are 45 minutes)*
3:30	**BREAK SPONSORED BY CAELYNX**
4:00	**COMMUNITY BREAKOUT SESSIONS** *(sessions are 45 minutes)*

PLENARY AND KEYNOTE SPEAKERS—WEDNESDAY, SEPT. 18

Clifton Davies,
Lockheed Martin Aeronautics,
Aerospace Engineer Senior Staff

Clifton Davies is a Principal Aeronautical Engineer for Lockheed Martin Skunk Works®. In this capacity, Mr. Davies leads the creation of conceptual design tools, processes and methods unique to early product development. His efforts drive the development of supporting discipline analysis tools to meet conceptual design needs, including but not limited to core sizing and MDO tools and methods. In addition to his work in aircraft conceptual design tools and methods, Mr. Davies also serves as the Engineering Business Architect lead, providing oversight into the development and application of all engineering tools and processes for new programs.

Aircraft Conceptual Design Using 3DEXPERIENCE Simulation Process & Design Exploration Apps

Lockheed Martin Aeronautics will discuss our experiences in performing aircraft conceptual design using the **3D**EXPERIENCE® Simulation Process & Design Exploration Applications. In the context of the AFRL EXPEDITE program LM will discuss SIMULIA capabilities exercised to address the significant MDO modeling and computing challenges including Process Composer, Results Analytics, and Compute Orchestration Services. From basic setup to MDO problem execution and results analysis the presentation will discuss SIMULIA successes as well as ideas for SIMULIA growth to address A&D simulation challenges.

Dr. R. Byron Pipes, Purdue University,
Executive Director of the Composites Manufacturing and Simulation Center

Dr. R. Byron Pipes is the executive director of the Composites Manufacturing and Simulation Center at Purdue University. He was elected to the National Academy of Engineering in 1987 in recognition of his development of an exemplary model for relationships between corporate, academic and government sectors to foster research and education in the field of composite materials. In 2018 at the 150th anniversary of the founding of engineering at University of Edinburgh, he was awarded the honorary Doctorem Honoris Causa by the University of Edinburgh, Scotland.

Simulation as the Language of Innovation—3DEXPERIENCE

The extraordinary developments in simulation offer enormous potential for acceleration of technologies that have previously been developed with conventional heuristic approaches, but are essential to society's future needs. Two examples of the workflow applications that utilize the Dassault Systèmes **3D**EXPERIENCE platform to draw on both CATIA and SIMULIA are employed to develop end-to-end digital twins of composites tooling and the composites manufacturing process. Simulations with **3D**EXPERIENCE are presented for composites extrusion deposition additive manufacturing (ADDITIVE3D) and molded prepreg platelet composites (PPMC3D) that provide a working example of how rapid prototyping with 3D printed tooling and prepreg platelet molding can produce an optimum prototype for the Rolls Royce Trent thrust reverser blocker door.

Laurent Tournier, Heol Composites, Founder

Laurent started the company Heol Composites in October 2002, a limited company of ten employees whose main activity lies in the development of autoclaved structural parts, with 70% of the turnover dedicated to the nautical and to competition sailing and 30% in industrial parts (aeronautics, naval, automotive ...). Heol Composites is renowned for its expertise in the production of appendages (foils, rudders, fins, keels ...) as well as carbon spars (poles, booms, outriggers). For this purpose, the company has an automatic tissue cutting machine and two production autoclaves up to 15m in length. Laurent sold the business in October 2017 and is currently a self-employed independent consulting engineer.

Dr. Pierre Yves Mechin, Dassault Systèmes,
CATIA R&D Composites

Graduated from INSA Lyon in material sciences in 2012, I worked for 5 years in Marine engineering for the design of racing yachts (60 feet boats, Ultime boat, ...). I have been involved with the America's Cup project Team France in 2015-2016 to manage structural tests of composites structure. I did a PhD at the University of South Brittany dedicated to the prediction of compressive strength under static and cyclic loadings for marine application. In this research program, the fatigue behavior of composite was carefully considered. I had the opportunity to work with Prof. Sung Kyu Ha at Hanyang university. Moreover, the effect of the manufacturing defect was considered using both tomography analysis and multiscale tool (unit cell model) to predict the realistic mechanical properties. I joined Dassault Systèmes in 2017 to work the defect effect prediction for composites structure. The purpose is to extend the capabilities of the **3D**EXPERIENCE platform to manage the manufacturing effect. Besides this work, I do conferences at University of South-Brittany and INSA Lyon.

On the Road to Olympic Games: From ModSim Optimization of a Composite Mast for Racing Application

Want to learn how to win an Olympic gold medal at the Tokyo Olympic Games in 2020? This presentation will explore how "The FINN Mast Project" tackled a real-world design challenge for building a better sailboat mast using Dassault Systèmes **3D**EXPERIENCE Composites solution for modeling and simulation to re-engineer the behavior and "feel" of the mast for an enhanced racing experience. The innovative results increased speed and optimized dynamics thanks to rapid design space exploration enabled by the integration of the platform.

EXECUTIVE ROUNDTABLE—WEDNESDAY, SEPT. 18

In the executive roundtable discussion, experts from the modeling and simulation communities share their insights on the unified future of design and engineering and how CATIA and SIMULIA, together on the 3DEXPERIENCE platform, contribute to the digital transformation with ENOVIA to manage the data and connect the dots to requirements and program management.

Modeling and Simulation in the Age of Digital Transformation

Simulation-driven design is at the core of a dynamic and efficient ideation process. To capitalize on the new capabilities of the **3D**EXPERIENCE Twin across industrial enterprises, innovators need to leverage the integrated modeling and simulation processes empowered by **3D**EXPERIENCE.

3DEXPERIENCE eliminates digital discontinuities across the entire design-simulate-manufacture process in a new, dynamic way. Instead of a simple linear path, designers now integrate cycles of input and feedback into the creation process to instantaneously update the end product. Dr. Michael Grieves will moderate the discussion.

Dr. Michael Grieves,
Florida Institute of Technology,
Chief Scientist of Advanced Manufacturing

Dr. Michael Grieves is an internationally renowned expert in Product Lifecycle Management (PLM) and originated the concept of the Digital Twin. His focus is on virtual product development, engineering, and manufacturing, especially additive manufacturing. He wrote the seminal books on PLM, "Product Lifecycle Management" and "Virtually Perfect: Driving Innovative and Lean Products through PLM." In addition to his academic credentials, Dr. Grieves has decades of extensive executive, board, and deep technical experience in both global and entrepreneurial technology and manufacturing companies. Dr. Grieves is currently Chief Scientist for Advanced Manufacturing at the Florida Institute of Technology.

Philippe Laufer, CEO, CATIA

Philippe Laufer was appointed CEO CATIA in July 2012. He has been THE Man behind CATIA for 30 years, namely as VP R&D since 2006. His contribution has been crucial to CATIA's present leadership and he is unanimously recognized by our partners and customers as the worldwide CATIA expert. His deep knowledge of the industry as well as the **3D**EXPERIENCE platform and V6 applications has driven several major successful deployments. Philippe continues to direct and oversee all design-related apps for the group when it comes to R&D, technologies and components re-use.

David M. Holman, Dassault Systèmes, VP, SIMULIA R&D and Brand Leader

David M. Holman is Vice President R&D and Brand Leader for Dassault Systèmes' SIMULIA, overseeing Dassault Systèmes' simulation strategy. An entrepreneur and former CEO of XFlow, David contributes more than 15 years of experience building and growing engineering and physics simulation software. He also serves on the UKComes Industry Advisory Board.

Garth Coleman, VP Marketing, ENOVIA

Garth Coleman is an expert in the areas of CAD, PDM, and PLM, with a deep understanding of cloud, change management, 3D visualization, and immersive virtual reality technologies. While at Dassault Systèmes, he has worked on ENOVIA mid-market solutions; ENOVIA cloud offers; Energy & Materials industry solutions; and spent several years leading the enterprise product strategy, marketing, and global technical sales for the 3DVIA brand.

COMMUNITY BREAKOUT AGENDA—WEDNESDAY, SEPT. 18

NAME OF TRACK FOLLOWED BY SESSIONS		ROOM
ELECTRIC, CONNECTED & AUTONOMOUS VEHICLES *(Room Sponsored by VIAS)* Relating to autonomous or electric vehicle engineering and development, including e-drive, powertrain, electric vehicle noise & vibration, thermal management and batteries		
1:30	**Session 1:** Addressing the Challenges of Autonomous Mobility in a Holistic Way, Fabien Letailleur and Cecile Doan, Dassault Systèmes	Emerald
2:15	**Session 2**: Simulation Demands for Automotive Radar and the Jump from 24 GHz to 77 GHz, Jim Reed, VIAS	Emerald
3:30	**Session 3**: Battery Modeling—Fast, Comprehensive, Semi-Automated Tools Sets, Abriham Pasumarthy, Detroit Engineered Products	Emerald
4:15	**Session 4**: Engineering Solutions for E-Mobility and Industry Examples, Fabien Letailleur and Madhusudan Rao, Dassault Systèmes	Emerald
STRUCTURAL VIBRATION Relating to vibration, dynamics, and test correlation for structures and assemblies		
1:30	**Session 1**: Orion E-STA Nonlinear Dynamic Correlation, Matt Griebel, Quartus Engineering	Granite
2:15	**Session 2**: Predicting NVH Behavior of Highly Variable Heatshield Models, Shaleena Daisy, Dana	Granite
5G COMMUNICATIONS *(Room Sponsored by VIAS)* Relating to electromagnetics aspects of the coming 5G revolution, including communication gear, equipment, sensors, antennas, wave guides, beam shaping, and other aspects of this wide-ranging topic		
1:30	**Session 1**: 5G Innovation through Virtual Prototyping, Jonathan Oakley, Dassault Systèmes	Amethyst
2:15	**Sessions 2 and 3**: Multidisciplinary 5G Design with **3D**EXPERIENCE, Andre Wu, Dassault Systèmes; Simulation for 5G | Quantifying Human Exposure to RF Signals, Chris Jones, Dassault Systèmes	Amethyst
ROBUST DESIGN Relating to design of experiments (DOE), design space exploration, and parametric studies to validate the robustness and performance of structural designs to geometric tolerance, material, and assembly variations		
1:30	**Session 1**: Dynamic Cornering Fatigue Simulation of an Aluminum Wheel: Static Loading, Fatigue Analysis, and Shape Optimization, Hicham Farid, Aventec	Copper
2:15	**Session 2**: Using Insight to Improve High-Cycle Fatigue Analysis Process for Cylinder Head Gaskets, Jason Tyrus, Dana	Copper
KNOW-HOW CAPITALIZATION AND AUTOMATION Embark into the journey in leveraging CATIA on the **3D**EXPERIENCE platform to capture, standardize and reuse corporate knowledge and know how. The result = a **3D**EXPERIENCE Twin that is transforming how high performing companies design and test their products		
1:30	**Session 1**: **3D**EXPERIENCE Twin—Knowledge-Based MODSIM: Tire Engineering Example, Julie Labrecque and Jeff Erno, Dassault Systèmes	Bronze
2:15	**Session 2**: Concept Structure Engineer—SFE on **3D**EXPERIENCE Platform, Anup Iti, Dassault Systèmes	Bronze

NAME OF TRACK FOLLOWED BY SESSIONS		ROOM
COMPONENT FUNCTIONAL GENERATIVE ENGINEERING *(Room Sponsored by SME)* Explore the evolution of CATIA from traditional CAD to Cognitive Augmented Design and the age of Experiential Engineering with learning based automation		
1:30	**Session 1**: Cognitive Augmented Design: A New Way to Design, Etienne Ardouin and Rani Richardson, Dassault Systèmes	**Gold**
2:15	**Session 2**: Transforming Product Development through Generative Design, Keith Meintjes, CIMdata	**Gold**
AUTOMOTIVE TECHNOLOGY *(Room Sponsored by VIAS)* Relating to simulation technologies and techniques in certain automotive application and product development areas		
3:30	**Session 1**: Finite Element Based Differential Gear Analysis and Correlation with Test Results, Jifa Mei, American Axle & Manufacturing, Inc.	**Amethyst**
4:15	**Session 2**: E-Mobility—Ease, Electric and Environment, Rajasekaran Mohan, Detroit Engineered Products	**Amethyst**
PACKAGING MANUFACTURING Relating to industrial packaging design, performance, and engineering, including efficiency, assembly, lightweighting, safety, sustainability, and other topics of engineering interest related to industrial packaging		
3:30	**Session 1**: Structural Packaging: Create the Perfect Package in Record Time, Julie Labrecque, Joe Asmar, and Jack Cofer, Dassault Systèmes	**Granite**
4:15	**Session 2**: Plastic Design: Accelerate Design, Detail and Validation of Complex Injection Mold, Daniel Pyzak, Dassault Systèmes	**Granite**
ADVANCED VISUALIZATION Dassault Systèmes has visualization with unparalleled integration with modeling and simulation; let us show you how to use it for enhanced understanding and decision making		
3:30	**Session 1**: Bringing Simulation to Life with Immersive Virtuality, Guillaume Donval and Lilian Chou, Dassault Systèmes	**Copper**
4:15	**Session 2**: Let Us Move from Unrealistic Boundary Conditions to Realistic Simulation Context Chin-Wei Chang and Tamer Yanni, Dassault Systèmes	**Copper**
COMPONENT DESIGN FOR STRUCTURAL PERFORMANCE CATIA brings powerful knowledge solutions that now go beyond design; learn how the simulation process can be automated with simulation templates on the cloud		
3:30	**Session 1**: Modeling and Simulation on the Cloud, Jeff Heath and Akshay Narasimhan, Dassault Systèmes	**Bronze**
4:15	**Session 2**: Design and Analysis of Complex Fluidic 3D Systems, Behnam Afsharpoya and Rod Banach, Dassault Systèmes	**Bronze**
PRINT TO PERFORM (ADDITIVE MANUFACTURING END TO END) *(Room Sponsored by SME)* Additive manufacturing applications in **3D**EXPERIENCE provide a single unified environment for designers, manufacturing specialists and simulation analysts to collaborate on generative design, build planning, virtual printing and post-processing		
3:30	**Session 1**: Print to Perform (Additive Manufacturing End to End), Etienne Ardouin and Akshay Narasimhan, Dassault Systèmes	**Gold**
4:15	**Session 2**: Fabrication of DMLS/SLM Parts by Reverse Shape Optimization Method to Final Form, Shyam Balasubramanian and Chris Philpott, Knust Godwin	**Gold**

COMMUNITY BREAKOUT AGENDA—WEDNESDAY, SEPT. 18

NAME OF TRACK FOLLOWED BY SESSIONS		ROOM
COLLABORATION Relating to combining end-to-end digital continuity, multidisciplinary design collaboration, and change & configuration management for powerful and transformational design innovation		
1:30	**Session 1**: End-to-End Digital Continuity and Next Generation Design Review & DMU, Garth Coleman and Naim Dalal, Dassault Systèmes	Silver
2:15	**Session 2**: Introduction to Change Management, Naim Dalal, Dassault Systèmes	Silver
3:30	**Session 3**: Introduction to Configured Engineering and Simulation in a Configured Context, Garth Coleman, Rick Hahn and Madhusudan Rao, Dassault Systèmes	Silver
4:15	**Session 4**: Multidisciplinary Design, Rick Hahn and Andre Wu, Dassault Systèmes	Silver

NOTES

PLENARY AND KEYNOTE SPEAKERS—THURSDAY, SEPT. 19

Jeswin Joseph Chankaramangalam, National Institute for Aviation Research at Wichita State University, Program Manager, Research Manager

Jeswin Joseph Chankaramangalam has worked in the advanced manufacturing and composites industry with varying roles at Wichita State University's National Institute for Aviation Research for the last 13 years. He is a graduate of Wichita State University and an expert in advanced materials, additive manufacturing, composites manufacturing and emerging technologies. In his current role as Research and Program Manager for Emerging Technologies and the CAD/CAM series of labs, he assists the Lab Director with research and development, strategic planning, business development and program management of the various initiatives at the **3D**EXPERIENCE Center and other NIAR campuses at Wichita State University. He also serves as the Vice-President of the Wichita Chapter of the Society for the Advancement of Material and Process Engineering (SAMPE) and is a Faculty Advisor for various student organizations on the Wichita State University campus.

Composite sUAS Simulation, Validation and Manufacturing on the 3DEXPERIENCE Platform

The National Institute for Aviation Research (NIAR) at Wichita State University will share their experiences on building a composite small Unmanned Aerial System (sUAS) for search and rescue on the **3D**EXPERIENCE platform from concept to functional prototype in 10 months. This endeavor is part of WSU's vision to transform applied learning with students and experts leveraging emerging technologies such as additive manufacturing, robotics automation, and fully immersive technologies all on the **3D**EXPERIENCE platform.

Dr. Allan Zhong, Halliburton, Technology Manager, R&D, Engineering Simulations

Dr. Allan Zhong is an expert in applied mechanics and finite element analysis. He has solved a wide spectrum of complex engineering problems in oil and gas industry, has 4 issued/8 pending patents. He has also published close to 60 technical papers. Prior to Halliburton, Allan worked at Goodyear Tire and Rubber Company, where he developed an industry leading fracture mechanics based truck tire durability model. He is a Fellow of ASME and member of Society of Petroleum Engineer (SPE). He earned a Ph.D. in applied mechanics from California Institute of Technology.

On Formulations and Applications of Computational Modeling to Product Development in the Energy Sector

The rapid advances in high-performance computing hardware and commercial engineering simulation software enable the analysis of extremely large numerical models in a reasonable amount of time. Nonetheless, the fundamental engineering principles for the formulation of models remain the same and the ultimate goal of computational modeling is still to provide solutions to complex engineering problems. Even in the era of powerful computational capabilities, it is very important to formulate physics-based models properly, and as simply as possible. Applying engineering insight into the computational setup can help to gain understanding of the underlying mechanics as well as to deliver solutions efficiently and effectively, not just to provide numbers. There are roughly three general levels of industrial applications for computational modeling: evaluation, optimization, and knowledge quantification/innovation. From the perspectives of end users of commercial engineering simulation software, fundamental mechanics plays important roles in every level of the application and in every aspect of modeling. From model formulation by establishing acceptance or failure criterion to interpretation of numerical results, gaining in-depth understanding of mechanics of complex systems and quantifying empirical knowledge help to establish robust design methodologies. Using examples from over two decades of engineering practices, this paper demonstrates that computational modeling can help to drive robust engineering mechanics-based designs, to stimulate innovation, and to produce optimal performing products while reducing product development time and cost in energy sector.

Dr. Hansong Huang,
Director of Advanced Engineering,
Amcor Rigid Packaging

Dr. Hansong Huang is the Director of Advanced Engineering at Amcor Rigid Packaging (ARP), a division of Amcor Limited. His team is responsible for engineering design, analysis, simulation, rapid prototyping of rigid plastic containers primarily for consumer packaged goods (CPG), with focus on PET and Polyolefin containers. He also manages the PLM system for ARP. Prior to this position, Dr. Huang led Engineering Mechanics Team at Saint-Gobain Innovative Materials Division's Northboro R&D Center from 2011-2015 and was a senior and principal research engineer from 2005-2011. He was responsible for mechanical simulation and testing functions supporting the development of a wide range of industrial products in engineering ceramics, abrasives, engineering plastics, and construction products.

Dr. Huang's technical specialty is in solid mechanics and CAE. He received Ph.D. in Aerospace Engineering and M.S. in Electrical Engineering from Stanford University in 2003; and B.S. in Aerospace Engineering and Computer Science from Nanjing Univ. of Aeronautics & Astronautics in 1997.

Sustainability and Innovation in Consumer Rigid Packaging Enabled by Simulation Driven Design

Consumer Packaging intertwines with everyday life of every single person. Sustainability and innovation are the top priorities for business growth in packaging industry driven by rapidly evolving consumer and social environments. Amcor is the first global packaging company pledging to develop "all its packaging 100-percent recyclable or reusable by 2025" creating a circular economy for plastics. The win-win strategy perfectly aligns social obligation with the business needs of customers (brand owners) to meet consumer demands. Amcor Rigid Packaging (ARP) division, the largest plastic container manufacturer in Americas, fully embraces simulation driven design and engineering to deliver on the vision. Through both rapid development of new design concepts, technology platforms, and everyday design optimization and problem solving, a small CAE team plays an outsized role in reducing typical weight of hot-fill containers by 25% over the last 5–10 years and taking more than 100 million pounds of plastic out of circulation annually. In his talk, Dr. Huang will share examples of simulation enabling ARP's innovation in light-weighting, reusability, and Post-Consumer-Recycled (PCR) materials business initiatives. The talk will also underline the needs for adaptation of simulation and collaboration throughout CPG industry enabling up-front decision making to support innovation and circular economy business drives.

Nicolas Faure, CATIA Technical Director for North America, Dassault Systèmes

Nicolas Faure is a CATIA lover. He joined Dassault Systèmes in 2001 as an application engineer focusing on simulation for the aerospace industry. After several years, Nicolas took the leadership of the CATIA NAM Technical Sales team driving innovative projects with CATIA V5, CATIA V6 and now CATIA **3D**EXPERIENCE.

He holds a Master of Mechanical Engineering from a French Engineering school.

Fabien Letailleur, Director, SIMULIA Transportation & Mobility Strategic Initiatives

Fabien Letailleur leads the team responsible to deliver technical solutions and sales & marketing assets to targeted markets in the Transportation & Mobility industry, with an increased focus on Electric & Autonomous Vehicles.

Fabien joined Dassault Systèmes in 2007 with a Master's Degree in Mechanical Engineering, majoring in Finite Element Analysis, from the University of Technology of Troyes (U.T.T.) in France, and is based at SIMULIA Headquarters near Providence, RI.

His responsibilities within SIMULIA have included providing technical support for SLM in the Customer Services team, and producing sales tools and demonstrations in the Marketing & Communications group. He has also worked on the messaging of Dassault Systèmes' next-generation solutions for SIMULIA in the Technical Marketing and Market Strategy groups, and has contributed to connect the SIMULIA value proposition with the Dassault Systèmes industry strategy since 2012.

Seamless Integration of Modeling & Simulation: Real World Application Examples Using the 3DEXPERIENCE Platform

Dassault Systèmes is home to some of the most advanced design and simulation technologies. Combining them on the **3D**EXPERIENCE platform can provide a tremendous productivity gain and insights into what the best design of complex products, based on how they will perform. This Plenary Session will describe some of the benefits for the worlds of modeling and simulation to come together on a single platform, through industry-inspired examples. Learn about how to increase collaboration between teams, augment existing stand-alone applications, create design alternatives and easily select the best one, and review design performance in the most efficient way.

COMMUNITY BREAKOUT AGENDA—THURSDAY, SEPT. 19

NAME OF TRACK FOLLOWED BY SESSIONS		ROOM
STRUCTURES I *(Room Sponsored by Wolf Star Technologies)* Technology and applications of static and dynamic structures simulation, including strength, durability, vibration and impact behavior for product/vehicle design and engineering		
8:30	**Session 1**: Simulation Update: Structures, Eric Weybrant, Dassault Systèmes	Emerald
9:15	**Session 2**: Advanced Modeling Techniques of Large Warehouse Structures, Dragan Maric, Caelynx	Emerald
2:00	**Session 3**: Fatigue Life Prediction of a Non-Welded Axle Component Using Verity in fe-safe, Anoop Vasu, American Axle & Manufacturing	Emerald
2:45	**Session 4**: Fatigue Analysis and Loads Calculation for an Underground Mine Hauling System, Matthieu Lussier, Optimec Consultants	Emerald
4:00	**Session 5**: 3D Image Based Inspection and Simulation Applied to Additive Manufactured Spinal Truss Medical Implants, Kerim Genc, Synopsys	Emerald
4:45	**Session 6**: Lightweighting of Sheet-Metal Structures, Leveraging Shape and Sizing, Kaustubh Limaye, Dassault Systèmes	Emerald
ELECTROMAGNETICS Technology and applications of electromagnetics simulation, including uses of CST Studio Suite and Opera technologies for product design and engineering		
8:30	**Session 1**: Simulation Update: Electromagnetics, Leo Sassi, Dassault Systèmes	Amethyst
STRUCTURES II *(Room Sponsored by Wolf Star Technologies)* Technology and applications of static and dynamic structures simulation, including strength, durability, vibration and impact behavior for product/vehicle design and engineering		
9:15	**Session 1**: Compliant Mechanisms and Lattice Structures, Arvind Krishnan and Arunachalam Thiraviam, GoEngineer	Amethyst
2:00	**Session 2**: Explicit Simulation of Wrinkle Formation Due to Web Non-Uniformity, Boshen Fu, Kimberly-Clark	Amethyst
2:45	**Session 3**: Simulation of Impact Loading on Unprotected Hands, Eduardo Sosa, West Virginia University	Amethyst
4:00	**Session 4**: Vibration Analysis at the Design Stage of a Hydroelectric Power Plant, Sameh Guirgis, Hydro Quebec	Amethyst
4:45	**Session 5**: Engine Digital Twin Thorough Physics Informed Machine Learning, Arash Alizadeh, Front End Analytics	Amethyst
FLUIDS INCLUDING ACOUSTICS Technology and applications of fluids simulation, including uses of PowerFLOW, XFlow, **3DEXPERIENCE** Fluids and Wave6 technologies for product/vehicle design and engineering		
8:30	**Session 1**: Simulation Update: Fluids & Acoustics, Roopesh Mathur, Dasssault Systèmes	Granite
9:15	**Session 2**: Fluids Overview, Rick Shock, Dassault Systèmes	Granite
2:00	**Session 3**: Proposal for a New Improved Thermal Design Using the Lattice Boltzmann Method for a Combustion Chamber Following the Constructal Theory, Jose Filipe Trilha de Carvalho, SKA	Granite
2:45	**Session 4**: Variable RPM-MRF (Moving Reference Frame) Approach for Improved Performance Prediction of Radiator Fan in a Vehicle, Murthy Lakshmiraju, VIAS	Granite
4:00	**Session 5**: Certification of Class 8 Trucks for GHG Emissions Using CFD, Raja Sengupta, Volvo Trucks North America	Granite
4:45	**Session 6**: Thermal Validation Study of AdBlue Melting for Off Highway Vehicles, Devadatta Mukutmoni, Dassault Systèmes	Granite

NAME OF TRACK FOLLOWED BY SESSIONS		ROOM
MULTIBODY SYSTEM SIMULATION Technology and applications of multibody system simulation, including uses of Simpack technologies for component, system, or vehicle design and engineering		
8:30	**Session 1**: Simulation Update: Multibody System Simulation, Wolfgang Trautenberg, Dassault Systèmes	Copper
9:15	**Session 2**: Introduction to Multibody System Simulation, Wolfgang Trautenberg, Dassault Systèmes	Copper
MODEL BASED SYSTEMS ENGINEERING Relating to cyber-physical systems, model-based systems engineering, digital **3D**EXPERIENCE Twin, and 0D/1D system modeling practice		
8:30	**Session 1**: A System of Systems Approach in the Age of Experience for Sustainable Innovations: Application to City Smart Traffic Management challenges, Gauthier Fanmuy, Dassault Systèmes, Aaron Van Natter, No Magic, Inc	Bronze
9:15	**Session 2**: The Future of Performance Design Using an MBSE Approach: Application to Electric Vehicles, Gauthier Fanmuy and Paul Lalor, Dassault Systèmes	Bronze
COMPOSITE ENGINEERING & MANUFACTURING PREPARATION Composite design on Dassault Systèmes' **3D**EXPERIENCE platform enables a fully integrated design and simulation process, allowing users to create 3D models, simulate operational loads, simulate manufacturing processes, and prepare the 2D and 3D data required for production in a single environment		
8:30	**Session 1**: Leveraging Simulation for Composite Design and Manufacturing Processes on the **3D**EXPERIENCE Platform, Mark Burress and Matt Pais, Dassault Systèmes	Gold
9:15	**Session 2**: Automotive Applications for Composites Overbraiding, David Branscomb, Highland Composites	Gold
CONFIGURED ENGINEERING—DEEP DIVE WORKSHOP Relating to a deeper understanding of harnessing the power of configuration capabilities directly inside the design environment to enable rapid innovation and execution of product strategy		
8:30	**Session 1**: Multidiscipline Configured Engineering—Deep Dive (Part 1), Madhusudan Rao, Rick Hahn, Andre Wu and Naim Dalal, Dassault Systèmes	Silver
9:15	**Session 2**: Multidiscipline Configured Engineering—Deep Dive (Part 2), Madhusudan Rao, Rick Hahn, Andre Wu and Naim Dalal, Dassault Systèmes	Silver
MATERIALS Technology and applications of material behavior modeling for product design and engineering		
2:00	**Session 1**: Simulation of the Ultrasonic Welding Process, Wayne Cai, General Motors	Copper
2:45	**Session 2**: Strength Assessment of an Electronic Plastic Component Considering Local Fiber Orientation and Weld Lines, Sascha Pazour, PART Engineering, presenting on behalf of Robert Bosch	Copper
4:00	**Session 3**: Integrated Workflow Applications for a Composite Blocker Door, Michael Bogdanor, Purdue University	Copper
DYNAMIC BEHAVIOR MODELING & SIMULATION Relating to functional and logical 0D/1D behavior modeling and simulation of systems with Dymola		
2:00	**Session 1**: Multi-Physics Systems Modeling & Simulation, Tamer Yanni and Behnam Afsharpoya, Dassault Systèmes	Bronze
2:45	**Session 2**: Integration of Complex Modelica-based Physics Models and Discrete-time Control Systems: Approaches and Observations of Numerical Performance, Chris Greiner, Ford	Bronze

COMMUNITY BREAKOUT AGENDA—THURSDAY, SEPT. 19

NAME OF TRACK FOLLOWED BY SESSIONS		ROOM
CONCEPT STRUCTURE ENGINEERING The future of conceptual structure engineering (SFE) on the Dassault Systèmes **3DEXPERIENCE** platform		
2:00	**Session 1**: Concept Structure Round Table - Part 1, Luis Gomez, NIAR, Behrooz Shahidi, Ford, Charlie Gagliano, Honda, Ashish Aggarwal, Dassault Systèmes	Gold
2:45	**Session 2**: Concept Structure Round Table - Part 2, Luis Gomez, NIAR, Behrooz Shahidi, Ford, Charlie Gagliano, Honda, Ashish Aggarwal, Dassault Systèmes	Gold
PLM COLLABORATION SERVICES HANDS-ON WORKSHOP Relating to the ability to maintain existing CATIA V5 design capabilities while leveraging next-generation model-based capabilities of the **3DEXPERIENCE** platform		
2:00–5:30	**Session 1**: PLM Collaboration Services Hands-On Workshop, Madhusudan Rao,Rick Hahn, Andre Wu, and Naim Dalal, Dassault Systèmes	Silver
GENERATIVE DESIGN IN CONTEXT OF REQUIREMENTS Learn how the stamping die face designer solution optimizes your design process and reduces construction time by up to 50%, followed by design methodology in context of requirements		
4:00	**Session 1**: Simplify Your Die Face Design, Daniel Pyzak, Dassault Systèmes	Bronze
4:45	**Session 2**: Design Methodology Based on Leveraging 1D Simulation for Requirement Evaluation, Shanaka Ranatunga, Goken	Bronze
OPTIMIZING SIMULATION USING CATIA CATIA brings powerful solutions that dramatically improve all aspects of product development		
4:00	**Session 1**: Geometry Preparation for Significantly Faster and More Efficient Simulation, Gerard Alcini, Dassault Systèmes	Gold
4:45	**Session 2**: 3D Conceptual Design Trade Studies in MBSE, Sanjay Khurana, Matthew Pais and Anup Iti, Dassault Systèmes	Gold
MULTIDISCIPLINARY OPTIMIZATION Relating to multidisciplinary optimization, simulation and processes		
4:45	**Session 1**: Automotive Brake-Squeal Simulation and Design Application Using SIMULIA Physics Applications on **3DEXPERIENCE** Platform, Arindam Chakraborty, VIAS	Copper

TRAINING	DAY	DESCRIPTION	ROOM
PLM Collaboration Services Hands-on Workshop	Thursday, September 19	Relating to the ability to maintain existing CATIA V5 design capabilities while leveraging next-generation model-based capabilities of the **3D**EXPERIENCE platform. Hands-on introduction to **3D**EXPERIENCE PLM Collaboration Services for CATIA V5 users	**Silver**
3DEXPERIENCE Explorer Certification	Wednesday, September 18 Thursday, September 19	**Associate Level Certification** **Goal:** Assessing foundational skills for collaborating in communities and sharing project data **Reference: 3D**EXPERIENCE Business Innovation Essentials & SolidWorks videos **Exam Length:** <1.0 hour (45 Questions) **Minimum Passing grade:** 70% **Content:** 3DS Passport, 3DSwymcommunities, 3DCompass, 3DDrive, 3DPlay, 3DMessaging, 3DNotifications	**Jade**
Abaqus: Structural Analysis Certification	Wednesday, September 18 Thursday, September 19	**Associate Level Certification**: As a certified SIMULIA Associate - Abaqus Structural Analysis, you demonstrate your proficiency using Abaqus/CAE and Abaqus/Standard for structural analysis including—but not limited to—element definition, loading and boundary conditions description, constraints, geometric nonlinearities, metal plasticity, and contact **Target Audience**: Engineering graduate students (Master, PhD) and other Abaqus end-users with at least 3 to 6 months experience using Abaqus **Recommended preparation course**: Introduction to Abaqus **Exam Length**: 3 hours **For more information, please visit**: www.3ds.com/training/certification-program/simulia-certification	**Jade**

USER FEEDBACK SESSIONS

At Dassault Systèmes, we constantly focus on the design of our software. During every release we make countless decisions that affect your experience. By involving users like you in our decision-making process, we gain valuable information to help us make the right design decisions. We invite you to help us design products that fit your needs and shape product concepts early on by participating in a User Feedback Session.

If you are interested in participating in a one-on-one feedback session during the **3D**EXPERIENCE Modeling and Simulation Conference, stop by our **User Feedback Room (Ivory)**, and we will schedule a session.

SIMULIA Takes Mobile Playground on the Road

SIMULIA hits the road this fall with our Reveal the World tour to highlight our playground of interactive experiences. The tour starts here in the parking lot of the **3D**EXPERIENCE Modeling and Simulation Conference before touring the Midwest.

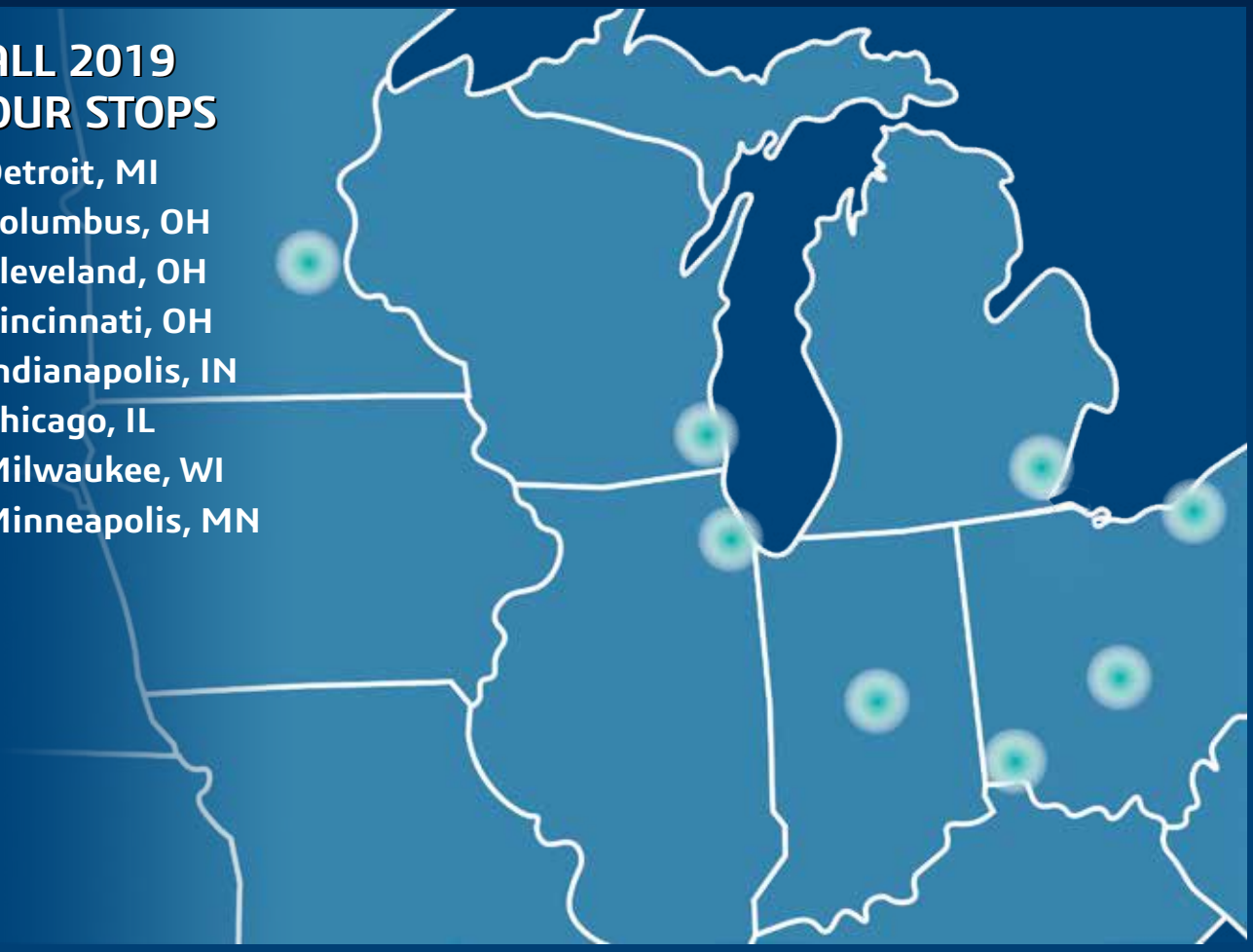
The playground will open at 10:00 a.m. both days of the conference. Come out and take a look during lunch or one of the breaks and see the power of simulation through a virtual replication of the real world or take part in one of our simulation challenges.

The 10-week tour will visit customer sites, Dassault Systèmes offices and universities. Look for an announcement later this year for the spring 2020 tour stops.

We look forward to seeing you on the tour!

FALL 2019
TOUR STOPS

- **Detroit, MI**
- **Columbus, OH**
- **Cleveland, OH**
- **Cincinnati, OH**
- **Indianapolis, IN**
- **Chicago, IL**
- **Milwaukee, WI**
- **Minneapolis, MN**



The tour will be on the road from mid-September to late November. Contact your SIMULIA account manager to inquire about a stop at or near your facility.

Visit Intel on the tour at the
3DEXPERIENCE Modeling and Simulation Conference
INTEL SPEAKING SESSIONS:
Wednesday, Spetember 18 at 1:30 PM
Thursday, Spetember 19 at 1:30 PM

#revealtheworld

go.3ds.com/reveal

3DS.COM