MODSIM World Conference & Expo 2017
Virginia Beach Convention Center / Virginia Beach, VA
April 25-27, 2017

Monday

1300 – 1700  Exhibitor Move-In – Ballroom Three
1500 – 1700  Registration – Main Lobby – Near Ballroom Three

Tuesday

0630 – 0800  Continental Breakfast – Ballroom Three
0800 – 0825  MODSIM World 2017 Welcome and Opening Remarks – Ballroom Two
            *Dr. Eric Weisel*, Director of Applied Research, Old Dominion University, MODSIM World 2017 Conference Chair
            *RADM James Robb, USN (Ret)*, President, National Training and Simulation Association (NTSA)
            *Dr. John Sokolowski*, President, The Society for Modeling and Simulation International
            *Dr. Saurabh Mittal*, Vice President of Membership, The Society for Modeling and Simulation International

0825 – 0830  Introduction of Industry Keynote Speaker – Ballroom Two
            *Dr. Eric Weisel*, Director of Applied Research, Old Dominion University, MODSIM World 2017 Conference Chair

0830 – 0930  Industry Keynote Speaker Address – Ballroom Two
            *Dr. Pieter Mostermann*, Chief Research Scientist and Director, MathWorks Advanced Research & Technology Office (MARTO) and Adjunct Professor, McGill University
            *A Changing Technology Landscape with Value Drivers for Modeling & Simulation*

0930 – 1830  Exhibit Displays, Challenge Competition Presentations and Demonstrations – Ballroom Three
0930 – 1000  Networking and Exhibit Time – Ballroom Three
0930 – 1830  Innovation Corner – Ballroom Three
            *Virtual and Mixed Reality Showcase at MODSIM World 2017*
            Experience how innovative virtual reality (VR) and mixed reality (MR) applications are being used to deliver transformative experiences in training, education and healthcare. A rotating selection of applications will expose attendees to the VR and MR technologies and teams pushing these media into a variety of verticals. Please refer to the Tabletops Displays section of the program for more details on the demonstrations.

            **Demonstrations:**
            - **C-130 Demo**: Oculus Rift (Vertex)
            - **Descension**: Gear VR (Janus Research)
            - **F/A-18 Demo**: Oculus Rift + HoloLens (Bohemia Interactive)
            - **SHARD**: HTC Vive (Plas.md)
1000 – 1200  Special Event – Ballroom Two
“The Simulation Century” – Bringing Big Data to Life
In our session we will show how big data was used to resurrect and animate Victor Hugo and Alexander Hamilton. Can we animate and get inside the heads of adversaries? Build better teams? Don’t miss this segment!

This year the Simulation Century Panel presentations will focus on technologies that help make big data come to life and be actionable, such as machine learning and simulation. These brief, high impact presentations will envision how 21st century technologies will shape humanity’s future.
Moderator: Richard Boyd, CEO, Tanjo, Inc.
Panel Members:
- Kevin Clark, Senior Venture Partner, 1 World Venture Partners
- Jennifer Arnold, Principal, Booz Allen Hamilton
- Jeff Frazier, Managing Director, Special Projects Office of the Chairman, Cisco Systems
- Anthony Cerri, Director, Data Science, Models, Simulations; TRADOC G27 OE Training Support Center (OE TSC)

1200 – 1330  Lunch and Exhibit Time – Ballroom Three

1330 – 1500  Paper Session I:

**ANALYTICS AND DECISION MAKING TRACK – Room 3A (located on the second floor)**

1330 – 1400  Data Farming and The Black Swan
Gary Horne, Blue Canopy Group

1400 – 1430  A Simulation on the Effect of a Major World War on the Population of the World
Winnie Zhang, The Governor’s School for Science and Technology

1430 – 1500  Simulating Foot and Mouth Disease in the United States using the Animal Disease Spread Model
Melissa Schoenbaum, USDA: APHIS: VS: CEAH

**SCIENCE AND ENGINEERING TRACK – Room 2C (located on the second floor)**

1330 – 1500  Panel: Digital Manufacturing Revolution
The continued growth in capabilities of both the internet of things (IoT) as well as big data toolsets has led to a revolution in the manufacturing industry. As systems begin to generate more and more data, and companies are faced with transforming from traditional manufacturing practices to processes driven by software and analytics, modeling and simulation will play a key role in driving this next industrial revolution. This panel will discuss the ways in which three large manufacturers are adapting to the digital manufacturing revolution. Panelists will share ways their companies are adopting modeling and simulation driven technologies to drive exponential business returns.

Panel Members:
- Troy Hartwig, Staff Engineer, Simulation and Modeling Center of Excellence Leader, Honeywell
- Chris Heard, Modeling and Simulation Software Engineer, Newport News Shipbuilding
- Dr. Vukica Jovanović, Assistant Professor of Engineering Technology in Mechanical Engineering Technology Program, Old Dominion University
Tuesday (continued)..................................................................................................................................................April 25

TRAINING AND EDUCATION TRACK – Room 3B (located on the second floor)
1330 – 1400  Large Scale Testing and Evaluation of Virtual Environments for Infantry Soldier Tasks
             Comparing Mental Effort for Live Versus Virtual Training Performance Assessments
             Dr. Douglas Maxwell, US Army Research Lab
1400 – 1430  Effectiveness of Augmented Reality and Augmented Virtuality
             Dr. J. D. Fletcher, Institute for Defense Analyses
1430 – 1500  Evaluating Game-Based Environments for Army Aviation Collective Training
             Dr. Lauren Reinerman-Jones, University of Central Florida, Institute for Simulation and Training

VISUALIZATION AND GAMIFICATION TRACK – Room 2D (located on the second floor)
1330 – 1400  Rolling the Dice: Using Low-Cost Tabletop Simulation to Develop and Evaluate
             High-Value CONOPS in Uncertain Tactical Environments
             Michael Erwin, Sonalyists
1400 – 1430  Understanding Future Conflict Escalation Dynamics with Analytic Gaming
             Michael Lytwyn, SAIC

1500 – 1530  Networking and Exhibit Time – Ballroom Three
1530 – 1700  Paper Session II:

ANALYTICS AND DECISION MAKING TRACK – Room 3A (located on the second floor)
1530 – 1700  Panel: Defending the Infrastructure with Modeling, Simulation and Training
             U.S. forces are applying cyber as an integrated component of combined operations, with cyberspace as a
             warfare domain. The 2015 DoD CyberStrategy makes clear that the cyber domain extends from the
             forward edge of battle to the heartland, and that cyber operations encompass strategic and tactical
             operations, as well as operations needed for mission continuity. The need for cyber training arrives at a
             time when our nation is under consistent, pervasive threat of cyber-attack upon everything from everyday
             connected devices to our political process. Our need for cyber warriors has never been greater, and
             modeling, simulation and training lies at the forefront of the DoD’s strategic mission to strengthen the
             skills of cyber mission planners and operators. This panel brings together key cyber leadership in industry,
             government and academia to discuss mission critical aspects of cyber operations, and present modeling
             and simulation innovations underway to defend our nation’s government and commercial infrastructure.
             Moderator: Samuel Visner, Senior Vice President/General Manager for Cybersecurity and Resilience,
             ICF International
             Panel Members:
             • COL Scott D. Lathrop, USA (Ret), Director of Secure Autonomy, SoarTech
             • Dr. Deepinder Sidhu, President and CEO, Cyberspace Analytics Corporation
             • Dr. Misty Blowers, Senior Fellow and Vice President of Cyber Research, ICF International

SCIENCE AND ENGINEERING TRACK – Room 2C (located on the second floor)
1530 – 1600  Harmonized Air Missile Space Training Environment
             Warren Bizub, SimiS, Inc.
1600 – 1630  Augmenting Model-Based Design with Human System Integration Advisor
             Dr. Marc Abrams, Harmonia Holdings Group, LLC
1630 – 1700  More Then the Sum of Their Parts: A Case Study in Learning Application Integration
             Dr. Michael Freed, SRI International
Tuesday (continued)____________________________________________________________________________April 25

TRAINING AND EDUCATION TRACK – Room 3B (located on the second floor)
1530 – 1600  Using LiDAR Technology Combined with Position-Tracking Software Medical Training Evaluation System (MTES) in an Integrated After Action Review System for Mobile Medical Lane Training  
Erin Honold, Information Visualization and Innovative Research  
1600 – 1630  Analysis of Effective Speech Recognition in a Virtual Operating Room  
Dr. Levi Warvel, Old Dominion University  
1630 – 1700  Validation Process and Use Advantages of an Avatar Guided Computer Game-Based Patient Safety Program in a Large Level I Trauma Military Treatment Center  
Dr. V. Andrea Parodi, VMASC

VISUALIZATION AND GAMIFICATION TRACK – Room 2D (located on the second floor)
1530 – 1600  Navigating Augmented and Virtual Reality Hardware Choices  
John Williamson, SAIC  
1600 – 1630  Leveraging HTML5 and WebGL to Address Information Assurance Barriers for Simulation Based Training in the U.S. Military  
Michael Heilmann, University of Central Florida, Institute for Simulation and Training  
1630 – 1700  Cultivating Digital TLC – Teaching and Learning Communities  
Dr. Dominic Mentor, Columbia University

1700 – 1900  Attendee Onsite Networking Event – Ballroom Three
Welcome Remarks: Dr. Eric Weisel and Event Sponsor, VMASC

Wednesday_________________________________________________________________________________April 26

0700 – 1730  Registration – Main Lobby – Near Ballroom Three  
0700 – 0800  Continental Breakfast – Ballroom Three  
0800 – 0810  MODSIM World 2017 Day Two Opening Remarks – Ballroom Two  
Matt Spruill, Virginia Modeling and Simulation Partnership (VMSP)  
0810 – 0815  Introduction of Government Keynote Speaker – Ballroom Two  
Dr. Eric Weisel, Director of Applied Research, Old Dominion University, MODSIM World 2017 Conference Chair  
0815 – 0845  Government Keynote Speaker – Ballroom Two  
Dr. Paul Lehner, Chief, Test and Evaluation, Intelligence Advanced Research Projects Activity (IARPA)  
Innovative Applications of Modeling and Simulation in IARPA Test and Evaluation
Wednesday (continued) April 26

0845 – 1015 Special Event – Ballroom Two

**Senior Leader Panel: Digital Trends in Government and Industry**

Senior Leaders from Government and Industry will share their insights on the role that M&S has in their organizations, their perspective on the issues and impact of M&S, and their thoughts on the gaps that M&S can fill in the future. Following their comments, attendees will have the opportunity to ask questions and gain a better understanding of the issues facing these leaders and the issues that M&S technology transformation can potentially address.

**Moderator: RADM James Robb, USN (Ret),** President, NTSA

**Panel Members:**
- Jill Marlowe, Director, Research Directorate, NASA Langley Research Center
- Jesse Citizen, Director, DoD Modeling and Simulation Center Coordination Office
- Marty Vozzo, Distributed Training Branch Head, NSWC Dahlgren Division/CDSA Dam Neck
- Frank DiGiovanni, Deputy Chief of Naval Personnel (Invited)

1015 – 1530 Exhibit Displays, Challenge Competition Presentations and Demonstrations – Ballroom Three

1015 – 1730 Innovation Corner – Ballroom Three

**Virtual and Mixed Reality Showcase at MODSIM World 2017**

Experience how innovative virtual reality (VR) and mixed reality (MR) applications are being used to deliver transformative experiences in training, education and healthcare. A rotating selection of applications will expose attendees to the VR and MR technologies and teams pushing these media into a variety of verticals. Please refer to the Tabletops Displays section of the program for more details on the demonstrations.

**Demonstrations:**
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- **F/A-18 Demo:** Oculus Rift + HoloLens (Bohemia Interactive)
- **SHARD:** HTC Vive (Plas.md)

1015 – 1045 Networking and Exhibit Time – Ballroom Three

1045 – 1115 VIP Technology Showcase – Ballroom Three

The Technology Showcase allows the Senior Leader Panelists to learn about the latest technologies and tools being developed by M&S companies first hand. These short, focused briefs, conducted in sequence, will highlight M&S products and services, address state-of-the-art technology implementations, and describe how consumers and customers may benefit from these technologies.

**Moderator: Rex Wallen,** Modeling and Simulation Systems Engineer, Newport News Shipbuilding
1045 – 1215  Paper Session III:

**ANALYTICS AND DECISION MAKING TRACK – Room 3A (located on the second floor)**

1045 – 1115  Training Equipment Life Cycle Awareness for Combat Training Centers
*Julie Kent*, Raytheon

1115 – 1145  The Reference Model Predicts Life Expectancy for Diabetics
*Dr. Jacob Barkak*

1145 – 1215  Creating Teaching and Learning Accountabilities through Data Analytic Feedback Loops
*Dr. Dominic Mentor*, Columbia University

**SCIENCE AND ENGINEERING TRACK – Room 2C (located on the second floor)**

1045 – 1215  Panel: Modeling and Simulation in Support of Nuclear Energy Operations
Though the nuclear industry is positioned to support some of the nation’s energy needs, ensuring the technology and power sources are safe, clean and secure presents many challenges. This panel will discuss how the Department of Energy is working to provide safe solutions to the nuclear energy challenge, as well as ensuring the safe and secure disposal of legacy nuclear materials. Panelists will discuss how modeling and simulation is supporting the operation of nuclear processing facilities and research into the future of nuclear power.

Panel Members:
- *Nick Miller*, HB-Line Deputy Facility Manager, Savannah River Nuclear Solutions, LLC.
- *Dr. Cristian Rabiti*, Department Manager, Idaho National Laboratory
- *Russ Shaffer*, Systems Modeling and Simulation Engineer, Newport News Shipbuilding

**TRAINING AND EDUCATION TRACK – Room 3B (located on the second floor)**

1045 – 1115  Semantic Instrumentation of Virtual Environments for Training
*Christian Greuel*, SRI International

1115 – 1145  Just a Shiny Object
*Major Nicholas Armendariz*, USMC, Training and Education Command

1145 – 1215  Authoring Adaptive Tutors for Simulations in Psycho-Motor Skills Domains
*Dr. Benjamin Bell*, Eduworks Corporation

**VISUALIZATION AND GAMIFICATION TRACK – Room 2D (located on the second floor)**

1045 – 1215  Panel: Navigating the Virtual and Mixed Reality Landscape of Today and Tomorrow
The number of virtual, augmented and mixed reality (VR/AR/MR) platforms have exploded over the past three years, providing simulation developers with a new canvas on which to create experiences that fundamentally change verticals including defense, healthcare, education and more. Join us for a wide ranging panel where we will look at available VR/AR/MR platforms and best practices for leveraging these powerful new tools in simulation.

Panel Members:
- *Vance Souders*, Founder and CEO, Plas.md
- *John Grant*, Technology Innovation Manager, HT-JCOE
- *Dr. Vaughn Whisker*, Research Associate, Penn State Applied Research Labs
- *Shane Tabor*, Creative Director, ECS Orlando
- *Kishan Shetty*, Engineering Lead, JANUS Research
- *John Burwell*, Director Business Development, Bohemia Interactive
1215 – 1345  Lunch and Exhibit Time – Ballroom Three

1345 – 1430  Special Event – “M&S Challenge Competition Presentation” – Ballroom Three
The M&S Challenge Competition is a unique event where talented individuals use the power of M&S to solve problems important to their community, government, business or industry sector. Developers, analysts, and subject matter experts participate in this competition and demonstrate the power of M&S. The four teams selected for the finals will present their projects and answer questions from the judges. Live audience voting will be included in the scores for selecting the overall best M&S solution. All conference attendees are encouraged to attend this event and vote.

**Moderator: Stefani Werner**, Modeling and Simulation Software Engineer and Analyst, Newport News Shipbuilding

<p>| M&amp;S Challenge Competition Finalists |</p>
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<thead>
<tr>
<th>Team #</th>
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<tr>
<td>1</td>
<td>Pectus Metric Tool</td>
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<td>2</td>
<td>Panda Coders</td>
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<td>Bishop Moore</td>
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1430 – 1500  Technology Showcase – Ballroom Three
The Technology Showcase allows our conference attendees to learn about the latest technologies and tools being developed by M&S companies first hand. These short, focused briefs, conducted in sequence, will highlight M&S products and services, address state-of-the-art technology implementations, and describe how consumers and customers may benefit from these technologies.

**Moderator: Rex Wallen**, Modeling and Simulation Systems Engineer, Newport News Shipbuilding

1500 – 1530  Networking and Exhibit Time – Ballroom Three

1530 – 1700  Paper Session IV:

**ANALYTICS AND DECISION MAKING TRACK – Room 3A (located on the second floor)**
1530 – 1600  Data Sharing is a Critical Capability!
*Ralph O’Connell*, Joint Staff J6

1600 – 1630  United States Coast Guard Firehouse Staffing Analysis
*CDR Chad Long, USCG*

1630 – 1700  M&S Workbench – A Foundation for a Modeling and Simulation Digital Engineering Ecosystem
*Pauline Johnson*, SimVentions

**SCIENCE AND ENGINEERING TRACK – Room 2C (located on the second floor)**
1530 – 1600  Realism in Modeling and Simulation with Implications of Virtual Reality, Augmented Reality and Immersive Environments
*Dr. Jeffrey Wallace*, Infinite Dimensions Integration, Inc.

1600 – 1630  Future Look – Effective Cybersecurity Using M&S
*Paul Gustavson*, SimVentions, Inc.

1630 – 1700  Data Trace Visualizations to Decipher Carrier Traffic Patterns
*Dr. Paul Koola*, KBSI
Wednesday (continued)

TRAINING AND EDUCATION TRACK (1) – Room 3B (located on the second floor)
1530 – 1600 Supporting Competency-based Education and Training in Distributed Learning Environments  
   Dr. Robby Robson, Eduworks Corporation
1600 – 1630 Developing a Collaborative Instructional Design Methodology for Studying Infectious Disease Protocols
   Dr. Sue Dass, ICF
1630 – 1700 “System of Systems” Approach for the Development of Next Generation Modular Simulation-Based Training Systems
   John Burwell, Bohemia Interactive Solutions

TRAINING AND EDUCATION TRACK (2) – Room 2D (located on the second floor)
1530 – 1600 Experimental Correlation of Vehicle Dynamics Simulation to Self-Reported Driving, Learning and Gaming Styles
   Dr. Kevin Hulme, University at Buffalo
1600 – 1630 A Fully Immersive Virtual Reality Training System for Rocket Fuel Mixing Operations
   Dr. Thomas Mastaglio, MYMIC Simulations
1630 – 1700 Improving the Utility of Open-Source Event Data for the Design of Training Exercises
   Douglas Murphy, InCadence Strategic Solutions

1530 – 1930 Offsite Networking Event
Nautilus Foyer / Nautilus Balcony
Hilton Garden Inn Oceanfront
3315 Atlantic Avenue
Virginia Beach, VA 23451
   * Pre-registration and pre-payment are required for this event

Thursday

0700 – 1530 Registration - Main Lobby – Near Ballroom Three
0700 – 0800 Continental Breakfast – Ballroom Three
0800 – 0930 Paper Session V:

   ANALYTICS AND DECISION MAKING TRACK – Room 3A (located on the second floor)
   0800 – 0830 Simulating the Impact of Sudarshan Kriya Yoga in Hampton Roads
      Dr. Saturnina Nisperos, Old Dominion University
   0830 – 0900 Crowd Source Innovation
      Brian Vogt, ARCIC
   0900 – 0930 Predictive Analytics with Advanced Bayesian Date-Fusion Surrogate Models
      Dr. Jesper Kristensen, General Electric Co.
**SCIENCE AND ENGINEERING TRACK – Room 2C (located on the second floor)**

0800 – 0830  
Modeling the Characteristics of Radical Ideological Growth using an Agent-Based Model Methodology  
*Paul Cummings*, Krasnow Institute for Advanced Study, George Mason University

0830 – 0900  
Experimental Validation of a Ground Robot Simulation Model during Line Following Task  
*Dr. Yiannis Papelis*, Old Dominion University

0900 – 0930  
Rapid Unmanned Surface Vehicle Model Prototyping System  

**TRAINING AND EDUCATION TRACK: Special Session: Joint Staff J7 Training Tools – Room 3B (located on the second floor)**

0800 – 0820  
Joint Staff J7 Joint Training Tools for Campaign Planning  
*LTC Mark Madden*, Joint Staff J7

0820 – 0840  
Cart Before the Horse – Leveraging Web-Based Global M&S Terrain Repositories for Scenario Development  
*Samuel Chambers*, Joint Staff J7

0840 – 0900  
Utilizing Force Management Services (FMS) to Support Realistic Training  
*Megan Babb*, Joint Staff J7

0900 – 0920  
Utilizing Campaign Adjudication to Aid in Training for Campaign Planning  
*Amy Grom*, Joint Staff J7

0920 – 0930  
Q&A/Discussion

**VISUALIZATION AND GAMIFICATION TRACK – Room 2D (located on the second floor)**

0800 – 0830  
Over Sixty Years of Lying with Statistics and Visualization  
*Dr. Andrew Collins*, VMASC

0830 – 0900  
Modeling and Economic Impact of Foot and Mouth Disease in the United States using The Paarlberg Quarterly Economic Model  
*Dawit Assefa*, USDA: APHIS: VS: STAS: CEAH

0900 – 0930  
Analysis of Team Tutoring Training Data  
*Anastacia MacAllister*, Iowa State University

0930 – 1000  
Networking – Ballroom Three

1000 – 1200  
Protecting the Nation Panel – Ballroom Two  
Use and Advancement of M&S Technologies for Defense and Security

The moderated panel discussion will highlight the innovative use of technology and data to facilitate:

- Complex decision making in areas such as cyber and energy security, spectrum management, acquisition and interoperability
- Advanced training and education, including blended and distributed learning

The discussion will explore advances in big data, artificial intelligence, cognitive computing, and the internet of things.

**Moderator: LCDR Chris Davidson**, Royal Australian Navy

**Panel Members:**

- *Ellen Purdy*, Office of Deputy Secretary of Defense, Research and Engineering
- *Tom Noble*, Director, Navy International Agreements, Navy IPO
- *Mike O’Neal*, Director, S&T/M&S for MARCORSYSCOM
- *Dennis Reed*, M&S Deputy, Department of Navy
- *Dr. Jeffery Temple*, Senior Engineer, Naval Surface Warfare Center Dahlgren Division (NSWCDD)
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**Thursday (continued)**  

**April 27**

**1000 – 1200**  
**Student STEM Event – Ballroom Three**  
The MODSIM STEM event provides the conference a unique opportunity to contribute directly to the school experience of the youth who are just beginning to formulate their dreams for the future.  

During the MODSIM STEM event, approximately 100 area high school students will get the opportunity to see firsthand the world of M&S. Students will rotate through hands-on M&S demonstrations provided in the exhibit hall to see STEM in action.

**1200 – 1330**  
**Lunch, Awards, and Announcements – Ballroom Three**

**1330 – 1500**  
**Special Event: Meeting of the Big Data and M&S Cabal – Ballroom Two**  
*Anthony Cerri*, Director, Data Science, Models, Simulations; TRADOC G27 OE Training Support Center (OE TSC)  
Interested members of the M&S and Big Data communities are meeting to continue a cross cutting dialogue. Goals of the discussion include: integration of capabilities; supporting warfighters and support staff with training and experimentation; identifying community weld points; update on the I/ITSEC 2017 Big Data Special Event; and discussion of how to make MODSIM and I/ITSEC a 1 - 2 Big Data punch. All are invited. If you are not already engaged: come, listen and determine how you fit.

**1500 – 1700**  
**External Event: National Modeling and Simulation Coalition (NMSC) Workshop – Ballroom Two**  
The National Modeling & Simulation Coalition (NMSC) is an unincorporated, voluntary, nonprofit coalition sponsored by and composed of government, industrial and educational organizations and professional societies having a common interest in promoting and leveraging M&S to better the human condition and to strengthen the National well-being. The mission of the NMSC is to create a unified national community of individuals and organizations around the M&S discipline and professional practice and to be the principal advocate for M&S. This event is a meeting of the NMSC. Please join us even if you are not already a member!