Monday April 23

1300 – 1700 Exhibitor Move-In – Norfolk Ballroom IV-VI

1500 – 1700 Registration – Main Lobby – Norfolk Ballroom Foyer

Tuesday April 24

0700 – 1730 Registration – Main Lobby – Norfolk Ballroom Foyer

0730 – 0830 Continental Breakfast – Norfolk Ballroom IV-VI

0830 – 0845 MODSIM World 2018 Welcome and Opening Remarks – Norfolk Ballroom I-III

Dr. Benjamin Bell, President, Eduworks Corporation, MODSIM World 2018 Conference Chair

RADM James Robb, USN (Ret), President, National Training and Simulation Association (NTSA)

Introduction of Congressional Keynote Speaker – Norfolk Ballroom I-III

RADM James Robb, USN (Ret), President, National Training and Simulation Association (NTSA)

0845 – 0900 Congressional Keynote Address – Norfolk Ballroom I-III

Rep Bobby Scott, Congressman, VA-03

0900 – 1000 Introduction of Industry and Defense Keynote Speakers – Norfolk Ballroom I-III

Dr. Benjamin Bell, President, Eduworks Corporation, MODSIM World 2018 Conference Chair

Industry Keynote Address – Norfolk Ballroom I-III

“Learning Engineering: The Missing Discipline”

Dr. Robby Robson, CEO, Eduworks Corporation and vice Chair of IEEE Learning Technology Standards Committee

Defense Keynote Speaker – Norfolk Ballroom I-III


BG Stephen M. Neary, Deputy Director, Joint Training, Joint Staff J7

0930 – 1830 Exhibit Hall and Innovation Corner Hours – Norfolk Ballroom IV-VI

Innovation Corner: Virtual and Mixed Reality Showcase at MODSIM World 2018

The Innovation Corner is dedicated to demonstrating technologies that are pushing the envelope. We're packing VR, Haptics and Genetic Engineering into the Innovation Corner for 2018. Stop by, check out the demos and chat with Innovation Panel speakers at this unique event.

Demonstrations:

- NIH MERRIT and FVCT Haptics Demonstration: JANUS Research
- CRISPR Synthetic Biology Demo: Plas.md
- HoloJOC HoloLens Joint Operations Center: Engineering and Computer Simulations
- AR/VR Solutions for Air Crew Training: Bohemia Interactive

1000 – 1030 Networking Break and Dedicated Exhibit Time – Norfolk Ballroom IV-VI
1030 – 1200  Special Event – Norfolk Ballroom I-III
“The Simulation Century” – The Leap from Big Data to Immersive Intelligence
Our sixth annual session will address the growing issue of managing the human/ machine interface as we hurtle towards the Singularity. We will continue our discussion of how to achieve fluency with smarter balance between humans and machines to optimize outcomes. The Simulation Century Panel presentations this year will focus on technologies that immerse us more deeply in digital simulations.

Moderator: Richard Boyd, CEO, Tanjo, Inc.
Panel Members:
• Mike Conlow, Head of Technology Consulting, Blue State Digital, “Machine learning and simulation: coming to an election near you”
• Jason Jerald, Co-Founder, NextGen Interactions, “Prototyping Tomorrow’s Technologies using Today’s VR”
• David Smith, CEO, Vision, CTO, Wearality, “The Future of VR/AR”
• Stephanie Trunzo, VP, Globant, “The Enterprise Digital Journey”

1200-1330  Lunch and Dedicated Exhibit Time – Norfolk Ballroom IV-VI

1330 – 1500  Paper Session I:
1330 – 1500  ANALYTICS AND DECISION-MAKING TRACK – James I-III
Track Panel: Big Data, High Performance Computing, and Simulation

Big data is…well…getting bigger. Bigger in size, bigger in business impact, and bigger in the infrastructure required to mine data and run artificial intelligence models. High performance computing (HPC) emerged in the 1960s as a way for a single computer to process information faster. They enabled better weather forecasting and aerodynamic research. Seymour Cray quipped, “If you were plowing a field, which would you rather use: Two strong oxen or 1,024 chickens?” Fifty years later, supercomputers run molecular dynamics simulations based on massively parallel processing on many smaller, but capable, clusters. History reveals the response to Cray’s question, “1,024 chickens, please.” Using multiple clusters is the essence of modern computing. They are also present in our laptops. This panel will discuss the current state of HPC as well as future trends. Panelists will share their perspectives on how HPC is affecting their sectors – giving attendees an opportunity to consider their own enterprises in light of growing access to HPC resources.

Moderators:
• Jay Gendron, Associate Data Scientist, Booz Allen Hamilton
• Dr. Eric Weisel, Acting Executive Director, Virginia Modeling, Analysis & Simulation Center

Panel Members:
• Dr. Justin Brunelle, Lead Researcher, MITRE Corporation
• John Carl, Principal, Data Analytics Group, Booz Allen Hamilton
• Dr. Sunita Dodani, Founding Director, EVMS-Sentara Healthcare Analytics and Delivery Science Institute (HADSI)
• Dr. Michael Goodrich, Model Builder, USAA
• Rusty Waterfield, Associate Vice President for University Services & Chief Information Officer, Information Technology Services, Old Dominion University
Tuesday (continued) April 24

**SCIENCE AND ENGINEERING TRACK** – Frank/Shangri La/Yorktown, 2nd Floor

1330 – 1400  Leveraging Commercial Game Engines for Multi-Domain Image Generation  
*Ashley Medford*, Consultant and Program Manager, ALM Consulting

1400 – 1430  Simulation-Based Design Optimization of a Propulsion System for an Unmanned Surface Vehicle  
*Taylor Franklin*, Veteran of the U.S. Navy & Undergraduate Research Assistant, Old Dominion University

1430 – 1500  Preventing Premature Death in the M&S Lifecycle: Lessons Learned from Resurrection and Modernization of a Space System Contamination Model  
*Dr. Elaine E. Seasly*, Contamination Control and Planetary Protection Lead, NASA

**TRAINING AND EDUCATION TRACK** – Marriott V-VII, 4th Floor

1330 – 1400  Existential Correlation of System Complexity and Task Complexity: Lessons Learned from Problem Solving F-1 Combustion Instability  
*Ronald Freeman*, Northcentral University

1400 – 1430  Evolution of Green Pig: Best Practices in Mobile App Design  
*Ashley Reardon*, Human Factors Engineer Intern, Quantum Improvements Consulting

1430 – 1500  The Challenge of Designing Instructionally Sound Virtual Reality-Based Training  
*Mia Joe*, Project Manager, Educational Technology, Newport News Shipbuilding

**VISUALIZATION AND GAMIFICATION TRACK** – Chesapeake I-II, 4th Floor

1330 – 1400  Visualizing and Simulating on Whole World Terrains  
*Peter Swan*, Business Development, VT MAK

1400 – 1430  Graphical Representations Provide Insight into Life Cycle Planning Through Data Analytics  
*Julie Kent*, Sr. Principal Systems Engineer, Raytheon Global Training Solutions

1430 – 1500  Visualization of the Process Interaction Worldview in Discrete Event Simulation  
*Thomas Tracey and Brian Delinila*, Old Dominion University

1500 – 1530  Networking Break and Dedicated Exhibit Time – Norfolk Ballroom IV-VI

1530 – 1700  Paper Session II:

**ANALYTICS AND DECISION-MAKING TRACK** – James I-III, 4th Floor

1530-1600  Tourism, Big Data, and the Restaurateurship: Does Modeling and Simulation Have a Seat at the Table?  
*Jay Gendron*, Data Scientist, Booz Allen Hamilton

1600-1630  The VCS C-Seam Analytics Platform: A Monte Carlo Approach to Machine Learning  
*Andrew Turscak*, Data Scientist, Newport News Shipbuilding

1630-1700  A Sustainability Assessment Model for Crop Rotation Alternatives  
*Saturnina Nisperos*, PhD Student, Old Dominion University

**SCIENCE AND ENGINEERING TRACK** – Frank/Shangri La/Yorktown, 2nd Floor

1530-1600  IoT Applied to the Control and Monitoring in Substations  
*Dr. Alexandre Cardoso*, Associate Professor and Coordinator of the Graduate Program in Electrical Engineering, Federal University of Uberlandia

1600-1630  Modeling of the Ionosphere Reveals Wide Bandwidth Available for a Virtual SATCOM Communication System  
*Dennis Watson*, Retired U.S. Navy Officer & PhD Candidate, Old Dominion University

1630-1700  A Versatile Simulation Framework for Elastodynamic Modeling of Structural Health Monitoring  
*Dr. Elizabeth Gregory*, Research Engineer, NASA
Tuesday (continued)____________________________________________________________________________________April 24

TRAINING AND EDUCATION TRACK – Marriott V-VII, 4th Floor
1530 – 1600 Assessing Performance and Usability of 3D Visualization Technologies for Anatomical Training
Andrew Wismer, Institute of Simulation and Training, University of Central Florida

1600 – 1630 Ready, Aim, Perform! Targeted Micro-Training for Performance Intervention
Lisa Babcock, Sr. Instructional Designer, Transportation Security Administration SST Curriculum Support Services, General Dynamics One Source

1630 – 1700 Walking a Mile in Simulated Shoes: Development of an Assessment of Perspective Taking
Jennifer Klafehn, Associate Research Scientist, Educational Testing Service

VISUALIZATION AND GAMIFICATION TRACK – Chesapeake I-II, 4th Floor
1530 – 1630 Track Keynote: Games: The Solution to Build the Cyber Operations Workforce
Dr. Shane Gallagher, Learning Scientist/Sr. Researcher, Institute for Defense Analyses

1715 – 1900 Attendee Onsite Networking Event – Norfolk Ballroom IV-VI
Welcome Remarks: Dr. Benjamin Bell and Event Sponsor, VMASC Industry Association

Wednesday________________________________________________________________________________________________April 25

0700 – 1730 Registration – Main Lobby – Norfolk Ballroom Foyer

0730 – 0830 Continental Breakfast – Norfolk Ballroom IV-VI

0830 – 0845 MODSIM World 2018 Day Two Opening Remarks – Norfolk Ballroom I-III
Matt Spruill, Chairman, Virginia Modeling and Simulation Partnership (VMSP)

Introduction of Senior Leader Panel – Norfolk Ballroom I-III
Dr. Benjamin Bell, President, Eduworks Corporation, MODSIM World 2018 Conference Chair

0845 - 1000 Special Event – Norfolk Ballroom I-III
Senior Leader Panel: Executing a Digital Strategy
Senior Leaders from Government and Industry will share their insights on successfully executing a digital strategy, which includes the integration of M&S into an organization's core value chain. Panel will discuss the critical elements that make up a digital strategy. 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, National Training and Simulation Association (NTSA)
Panel Members:
• Dr. Patrick Lincoln, Computer Science Laboratory, SRI International
• Dr. Harri Ketamo, Founder & Chairman, HeadAI
• Dr. James Moreland, Acting DASD (Tactical Warfare Systems), Naval Warfare, OUSD A&S/A/Tactical Warfare Systems
• Dr. Sae Schatz, Director, Advanced Distributed Learning Initiative
• Dr. John Tangney, Division Director, Office of Naval Research
Exhibit Hall and Innovation Corner Hours – Norfolk Ballroom IV-VI

Innovation Corner: Virtual and Mixed Reality Showcase at MODSIM World 2018
The Innovation Corner is dedicated to demonstrating technologies that are pushing the envelope. We're packing VR, Haptics and Genetic Engineering into the Innovation Corner for 2018. Stop by, check out the demos and chat with Innovation Panel speakers at this unique event.

Demonstrations:
- **VR Haptics Demonstration**: JANUS Research
- **CRISPR Synthetic Biology Demo**: Plas.md
- **HoloJOC HoloLens Joint Operations Center**: Engineering and Computer Simulations
- **AR/VR Solutions for Air Crew Training**: Bohemia Interactive

Networking Break and Dedicated Exhibit Time – Norfolk Ballroom IV-VI

Introduction of Government Keynote Speaker – Norfolk Ballroom I-III
Dr. Benjamin Bell, President, Eduworks Corporation, MODSIM World 2018 Conference Chair

**Government Keynote Speaker – Norfolk Ballroom I-III**
Mr. Robert Burns, Deputy Director, Homeland Security Advanced Research Projects Agency (HSARPA)

Introduction of Defense Keynote Speakers – Norfolk Ballroom I-III
RADM James Robb, USN (Ret), President, National Training and Simulation Association (NTSA)

**Defense Keynote Speaker – Norfolk Ballroom I-III**
BG Mark Odom, Director, Concept Development and Learning Directorate, Army Capabilities Integration Center, U.S. Army TRADOC

**Defense Keynote Speaker – Norfolk Ballroom I-III**
MG Maria R. Gervais, Deputy Commanding General, Combined Arms Center - Training

Lunch and Exhibit Time – Norfolk Ballroom IV-VI

Special Event – M&S Challenge Competition Presentation – Norfolk Ballroom I-III
The M&S Challenge Competition is a unique event where talented teams 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. Finalists will present their projects and answer questions from the judges. All conference attendees are encouraged to remain following the luncheon to observe this event.

Participants:
- **Molly Atwater**, College of William & Mary
- **Christopher Schultz & Lawrence Stempkowski**, Bishop Moore Catholic High School
- **Gul Ayaz & Gheramy Guzman**, Old Dominion University
Wednesday (continued)

1345 – 1515  

Paper Session III:

**ANALYTICS AND DECISION-MAKING TRACK** – James I-III, 4th Floor
1345 – 1415  Shifting Data Collection from a Fixed to an Adaptive Sampling Paradigm  
*Dr. Erik Axdahl, Research Aerospace Engineer, NASA Langley Research Center*

1415 – 1445  The Last Mile in Analytics and Decision Making  
*Jeff Mcrindle, Vice President of Sales, Yseop*

1445 – 1515  A Genetic Model for the Evolution of Complex Technologies and its Application to Economic Development  
*Devin Markovits, Co-Founder and Team Lead for Invention Analysis and Technology Mining, Innovation Business Partners*

**SCIENCE AND ENGINEERING TRACK** – Frank/Shangri La/Yorktown, 2nd Floor
1345 – 1415  A Multi-Level Universal Specification for Intelligent Characters (MUSIC)  
*Dr. Todd W. Griffith, Co-Founder, Chief Technology Officer and Director, Discover Machine, Inc.*

1415 – 1445  System Engineering: Optimizing Creation of Conversational Virtual Human Avatars  
*Dr. Dan Davis, Retired U.S. Navy Commander and Consultant, University of Southern California*

1445 – 1515  Reduction of Language Model Data Bases: Overcoming Chabot Implementation Obstacles  
*Nicholas Kaimakis, Undergraduate Research Assistant, University of Southern California*

**TRAINING AND EDUCATION TRACK** – Marriott V-VII, 4th Floor
1345 – 1445  Track Keynote: Advanced Learning Concepts  
*Jeffrey A. Raver, Vice President and Training Sub Segment Manager, Science Applications International Corporation (SAIC)*

1445 – 1515  Training to Fight in a Denied, Degraded, and Disrupted Space Operational Environment  
*Christopher Dupre, Military Analyst, Modeling and Simulation, CTR SMDC/ARSTRAT, G37 TREX AOCE, Inc*

**VISUALIZATION AND GAMIFICATION TRACK** – Chesapeake I-II, 4th Floor
1345 – 1415  Automated Generation of Holographic Heart from Coronary Tomography for Medical Diagnostics  
*Dr. Gerson Flavio Mendes Lima, Federal University of Uberlandia*

1415 – 1445  Technology Acceptance of a Virtual Tactical Combat Casualty Care Simulation  
*Matthew Hackett, Science and Technology Manager, Army Research Laboratory*

1445 – 1515  Child-Centric Interactive Exercise Devices (CCIED) and System for Conductive Education Therapy  
*Chaithanya Renduchintala, Researcher, Institute of Simulation and Training, University of Central Florida*

1515– 1545  Networking Break and Dedicated Exhibit Time – Norfolk Ballroom IV-VI
Wednesday (continued) .................................................April 25
1545 – 1715  Paper Session IV:

**ANALYTICS AND DECISION-MAKING TRACK** – James I-III, 4th Floor
1545 – 1615  The Application of Data Farming and Wargaming to Coalition Decision-Making
  *Dr. Gary Horne*, Technical Director of Modeling & Simulation Solutions, MCR Global
  *Dr. Wayne Stilwell*, CEO, Stilwell Technology and Robotics

1615 – 1645  Simulation Based Leadership Decision Support Simulator for Countering Weapons of Destruction
  *Dr. Daniel Barber*, Assistant Research Professor, University of Central Florida - Institute for Simulation and Training

1645 – 1715  The Acquisition System is Broken - But Not for the Reasons You Think
  *Luis Velazquez*, Branch Head of Future Capabilities & Innovation, Marine Corps Systems Command

**SCIENCE AND ENGINEERING TRACK** – Frank/Shangri La/Yorktown, 2nd Floor
1545 – 1645  Track Keynote
  *Dr. Robert Moses*, Aerospace Technologist, NASA Langley Research Center

1645 – 1715  Use of Real-Time, Predictive Human Modeling for Spatial Disorientation Detection and Mitigation
  *Ron Draiker*, Technical Lead and Research Engineer, NASA

**TRAINING AND EDUCATION TRACK** – Marriott V-VII, 4th Floor
1545 – 1615  A “Stories-as-a-Service” Architecture for Enriching Training Simulations
  *Dr. Benjamin Bell*, President, Eduworks Corporation

1615 – 1645  Validating Simulators for Live, Virtual, Constructive Exercises: A Methodology
  *Robert Dunn*, Research Associate, Prodigy Lab, Institute for Simulation and Training, University of Central Florida

1645 – 1715  A Taxonomy for the Evaluation of Training Simulations and Environments
  *Scott Harris*, Faculty Research Associate, Institute for Simulation and Training, University of Central Florida

**VISUALIZATION AND GAMIFICATION TRACK** – Chesapeake I-II, 4th Floor
1545 – 1615  Benefits of Applying Virtual and Augmented Reality to the Test and Evaluation of Autonomous Vehicles
  *Dr. James Leathrum Jr.*, Associate Professor, Old Dominion University

1615 – 1645  Evaluating the Applicability of Repurposed Entertainment Virtual Reality Devices for Military Training
  *Dr. Douglas Maxwell*, Senior Research Engineer, Aptima, Inc.

1645 – 1715  Enhancing Instructor-led Aircraft Maintenance Training to include Immersive, Interactive 3D and networking functionality to meet the tenets of the U. S. Army’s “Force 2025” and the “Army Operating Concept (AOC): Win in a Complex World.”
  *John E. Williamson*, Sr. Communications Analyst, SAIC

1730 – 1930  Offsite Networking Event

The Harbor Club at Waterside District
Come network with other MODSIM attendees! The event will be held on the second floor of the Harbor Club, with an open, lively atmosphere and floor to ceiling windows. You can also choose to spend your evening outside on the terrace and enjoy unmatched views of the Elizabeth River while enjoying warm fire pits! *Pre-registration and pre-payment are required for this event*
**Thursday April 26, 2018**

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<td>0730 – 1200</td>
<td>Registration - Main Lobby – Norfolk Ballroom Foyer</td>
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<tr>
<td>0730 - 0830</td>
<td>Continental Breakfast – Norfolk Ballroom IV-VI</td>
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<tr>
<td>0830 - 1000</td>
<td>Defense and Homeland Security Panel – Norfolk Ballroom I-III</td>
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**“Use and Advancement of M&S Technologies for Defense and Security”**

This 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
- Advances in big data, artificial intelligence, cognitive computing, and the internet of things.

**Moderator:** **LCDR Chris Davidson**, Naval Surface Warfare Center Dahlgren Division - Dam Neck Activity

**Panel Members:**

- **Dr. Van Brewer**, External R&D Principal, Advanced Distributed Learning (ADL) Initiative
- **Dr. David Fautua**, Chief, Individual Training & Learning, Deployable Training Division, Joint Staff J7
- **Dr. Syed Mohammad**, Director, HSARPA Modeling and Simulation
- **Brian Vogt (LTC, USA)**, NATO Allied Command Transformation

| 1000 - 1030 | Break and Networking (located on fourth floor)                         |
| 1000 – 1200 | STEM Event - Norfolk Ballroom IV-VI                                    |
| 1030 – 1200 | Paper Session V:                                                       |
|             | **ANALYTICS AND DECISION-MAKING TRACK** – James I-III, 4th Floor       |
| 1030 – 1100 | Rapid Analysis of Simulation Outputs for Use in Emergency Preparedness in Animal Disease Outbreaks  
*Melissa Schoenbaum*, Biological Scientist and Data Management Specialist, USDA–APHIS–VS–CEAH |
| 1100 – 1130 | Visualization and Pre-Processing of Intensive Care Unit Data Using Python Data Science Tools  
*Dr. Jacob Barhak*, Independent Researcher Specializing in Chronic Disease Modeling |
| 1130 – 1200 | Simulation-Based Evaluation of Medical Workstations Designed for Human Space Exploration  
*John Paul Asija*, Research Assistant, Old Dominion University - Darden College of Education  
*Jacob Richardson*, Intern, Jefferson Applied Research |

**TRAINING AND EDUCATION TRACK** – Marriott V-VII, 4th Floor

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| 1030 – 1100 | Enhancing Trainee Immersion with Goal-Directed, Reactive Populations and Realistic Surroundings  
*Collin A. Puskaritz*, Product Development Manager, Discovery Machines |
| 1100 – 1130 | Critical Thinking Training: Proven New Technologies for Engaging DoD Personnel  
*Nicholas Kaimakis*, Undergraduate Research Assistant, University of Southern California |
| 1130 – 1200 | An Immersive Approach to Providing Mishap Awareness Scenario Training for Ensuring Readiness (MASTER)  
*Zach Kiehl*, Research Engineer, Aptima, Inc. |
Thursday (continued)_________________________________________________________________

April 26

1030 – 1200  VISUALIZATION AND GAMIFICATION TRACK – Chesapeake I-II, 4th Floor
Track Panel @ MODSIM:

In 2017, the Innovation Panel @ MODSIM examined how Virtual, Augmented and Mixed Reality technologies were
poised to change modelling and simulation in verticals such as Defense, Healthcare and beyond. In 2018, we'll
discuss how these technologies have evolved over the past twelve months, if they've lived up to the hype and what
the future holds. In addition to XR, we'll look at how ambient computing and voice assistants are opening new
doors for immersive training. Join us for a wide ranging panel where we will look at the landscape of XR and
ambient computing while discussing best practices for leveraging these powerful new tools in simulation.

Moderator: Vance Souders, CEO, Plas.md

Panel Members:
- John Burwell, Business Development, Bohemia Interactive
- Kishan Shetty, Principal Engineer, Janus Research
- Shane Taber, Development Director, ECS

1200 - 1330  Lunch and Networking Break – Norfolk Ballroom IV-VI

1330 - 1500  Simulation for the Common Man: How do We Make M&S Accessible? – James I-III, 4th Floor
Given the power of insight and learning that simulation provides, you might question why simulations are not
more widely used. This facilitated interactive brainstorming session intends to discuss this question and others to
try and understand what our equivalent to the “got milk?” slogan would be. The outcomes of the workshop will
published and presented at IISTEC to allow the discussion to continue. All attendees welcome.

Facilitator: Dr. Andy Collins, Research Assistant Professor, Old Dominion University