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 Keynote Speaker – 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

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 MERRTT 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
Tuesday (continued)____________________________________________________________________________April 24

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

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

1330 – 1500  Paper Session I:

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
SCIENCE AND ENGINEERING TRACK – Frank/Shangri La/Yorktown, 2nd Floor
1530 – 1600  Leveraging Commercial Game Engines for Multi-Domain Image Generation
1600 – 1630  Simulation-Based Design Optimization of a Propulsion System for an Unmanned Surface Vehicle
1630 – 1700  Preventing Premature Death in the M&S Lifecycle: Lessons Learned from Resurrection and Modernization of a Space System Contamination Model

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, American Institute of Aeronautics and Astronautics, Orange County Section
1400 – 1430  Evolution of Green Pig: Best Practices in Mobile App Design
1430 – 1500  The Challenge of Designing Instructionally Sound Virtual Reality-Based Training
Mia Joe

VISUALIZATION AND GAMIFICATION TRACK – Chesapeake I-II, 4th Floor
1330 – 1400  Visualizing and Simulating on Whole World Terrains
1400 – 1430  Graphical Representations Provide Insight into Life Cycle Planning Through Data Analytics
1430 – 1500  Visualization of the Process Interaction Worldview in Discrete Event Simulation

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
1330 – 1400  IoT Applied to the Control and Monitoring in Substations
1400 – 1430  Modeling of the Ionosphere Reveals Wide Bandwidth Available for a Virtual SATCOM Communication System
1430 – 1500  A Versatile Simulation Framework for Elastodynamic Modeling of Structural Health Monitoring

TRAINING AND EDUCATION TRACK – Marriott V-VII, 4th Floor
1530 – 1600  Assessing Performance and Usability of 3D Visualization Technologies for Anatomical Training
1600 – 1630  Ready, Aim, Perform! Targeted Micro-Training for Performance Intervention
Lisa Babcock
1630 – 1700  Walking a Mile in Simulated Shoes: Development of an Assessment of Perspective Taking
Tuesday (continued) April 24

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. John Tangney, Division Director, Office of Naval Research
   • Dr. James Moreland, Acting DASD (Tactical Warfare Systems) & Director, Naval Warfare, OSD AT&L
   • Dr. Sae Schatz, Director, Advanced Distributed Learning Initiative

0930 – 1530 Exhibit Hall and Innovation Corner Hours – Norfolk Ballroom IV-VI

   Innovation Corner: Virtual and Mixed Reality Showcase at MODSIM World 2018
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   • 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
Wednesday (continued)

1000 - 1030 Networking Break and Dedicated Exhibit Time – Norfolk Ballroom IV-VI

1030 - 1115 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)

1115 - 1200 Introduction of Defense Keynote Speaker – 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

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

1300 - 1330 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

1330 – 1500 Paper Session III:

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

1330 – 1400 Shifting Data Collection from a Fixed to an Adaptive Sampling Paradigm

*Dr. Erik Axdahl, Research Aerospace Engineer,* NASA Langley Research Center

1400 – 1430 The Last Mile in Analytics and Decision Making

*Jeff Mccrindle, Vice President of Sales,* Yseop

1430 – 1500 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

1330 – 1400 A Multi-Level Universal Specification for Intelligent Characters (MUSIC)

1400 – 1430 System Engineering: Optimizing Creation of Conversational Virtual Human Avatars

1430 – 1500 Reduction of Language Model Data Bases: Overcoming Chabot Implementation Obstacles
Wednesday (continued)

TRAINING AND EDUCATION TRACK – Marriott V-VII, 4th Floor
1330 – 1430 Track Keynote: Advanced Learning Concepts
Jeffrey A. Raver, Vice President and Training Sub Segment Manager, Science Applications International Corporation (SAIC)
1430 – 1500 Training to Fight in a Denied, Degraded, and Disrupted Space Operational Environment
Christopher Dupre

VISUALIZATION AND GAMIFICATION TRACK – Chesapeake I-II, 4th Floor
1330 – 1400 Automated Generation of Holographic Heart from Coronary Tomography for Medical Diagnostics
Gerson Flavio Mendes Lima
1400 – 1430 Technology Acceptance of a Virtual Tactical Combat Casualty Care Simulation
Matthew Hackett, Science and Technology Manager, Army Research Laboratory
1430 – 1500 Child-Centric Interactive Exercise Devices (CCIED) and System for Conductive Education Therapy

1500– 1530 Networking Break and Dedicated Exhibit Time – Norfolk Ballroom IV-VI
1530 – 1700 Paper Session IV:

ANALYTICS AND DECISION-MAKING TRACK – James I-III, 4th Floor
1530 – 1600 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
1600 – 1630 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
1630 – 1700 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
1530 – 1630 Track Keynote
Dr. Robert Moses, Program Manager, Medical Simulation, General Dynamics Information Technology
1630 – 1700 Use of Real-Time, Predictive Human Modeling for Spatial Disorientation Detection and Mitigation

TRAINING AND EDUCATION TRACK – Marriott V-VII, 4th Floor
1530 – 1600 A “Stories-as-a-Service” Architecture for Enriching Training Simulations
Scott Harris
1600 – 1630 Validating Simulators for Live, Virtual, Constructive Exercises: A Methodology
1630 – 1700 A Taxonomy for the Evaluation of Training Simulations and Environments

VISUALIZATION AND GAMIFICATION TRACK – Chesapeake I-II, 4th Floor
1530 – 1600 Benefits of Applying Virtual and Augmented Reality to the Test and Evaluation of Autonomous Vehicles
1600 – 1630 Evaluating the Applicability of Repurposed Entertainment Virtual Reality Devices for Military Training
Wednesday (continued)________________________________________________________________________April 25

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

0730 – 1200 Registration - Main Lobby – Norfolk Ballroom Foyer

0730 - 0830 Continental Breakfast – Norfolk Ballroom IV-VI

0830 - 1000 Defense and Homeland Security Panel – Norfolk Ballroom I-III
“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, Royal Australian Navy

Panel Members:
• Dr. Van Brewer, External R&D Principal, Advanced Distributed Learning (ADL) Initiative
• Dr. Syed Mohammad, Director, HSARPA Modeling and Simulation
• Dr. David Fautua, Chief, Individual Training & Learning, Deployable Training Division, Joint Staff J7
• 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
Thursday (continued)_________________________________________________________________April 26

TRAINING AND EDUCATION TRACK – Marriott V-VII, 4th Floor
1030 – 1100 Enhancing Trainee Immersion with Goal-Directed, Reactive Populations and Realistic Surroundings
Collin A. Puskaritz
1100 – 1130 Critical Thinking Training: Proven New Technologies for Engaging DoD Personnel
1130 – 1200 An Immersive Approach to Providing Mishap Awareness Scenario Training for Ensuring Readiness (MASTER)
Zach Kiehl

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:
- Shane Tabor, Creative Director, ECS
- Kishan Shetty, Principal Engineer, Janus Research
- John Burwell, Business Development, Bohemia Interactive

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 how our M&S community can reach new users and decision makers. Part of our goal is 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