



MODSIM WORLD 2019

ENABLING DIGITAL TRANSFORMATION WITH M&S



EVENT INFORMATION

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EVENT INFORMATION

LOCATION

Hilton Norfolk The Main Hotel
100 E Main St.
Norfolk, VA 23510

EVENT THEME

Enabling Digital Transformation with M&S

SURVEY AND PARTICIPANT LIST

You'll receive via email a survey and list of attendees (name and organization) after the conference. Please complete the survey, which helps make our event even more successful in the future.

DRESS CODE

Army: ACUs or Duty Uniform
Marine Corps: Service "C"
Navy: Service Khaki, Navy Service Uniform
Air Force: Short or Long Service Blues
Coast Guard: Tropical Blue Long
Civilian: Business Attire

Dear MODSIM World 2019 Guests,

On behalf of the conference committee, welcome to MODSIM World 2019! It is my privilege and my pleasure to serve as this year's conference chair. The MODSIM World Conference provides an opportunity for industry leaders to come together and share ideas, learn how modeling and simulation (M&S) is impacting industries far and wide and to form partnerships that will further grow the community. The focus of the program this year will also help influence the way M&S professionals think about the way our industry can shape the future of digital technological adoption. The committee has worked very hard to make this year's event a relevant and vibrant experience for all participants and we are delighted you are joining us for MODSIM World 2019.

Our theme this year is Enabling Digital Transformation with M&S. We are very excited about this emphasis on how M&S can create a host of opportunities for attendees. As we celebrate the conference's 12th year, we are focusing on the ways that Modeling and Simulation is enabling organizations to embrace digital transformations. There are many avenues where M&S is enabling this change, from the explosion of analytics to the growth of cross reality (XR) in training and content delivery. As such, we are introducing Cross Reality as a new track; it aims to enhance training by utilizing M&S at the intersection of augmented reality, virtual reality and mixed reality.

We are honored to have numerous outstanding keynote speakers and panelists who can address this very point from a diversity of perspectives. The planning committee and I are extremely grateful to each speaker and to their staffs for juggling very busy schedules and working diligently to bring their perspectives to the conference. We trust you will find each address a fulfilling event. I truly appreciate the time these speakers have set aside to join us at MODSIM World 2019 and to share their visions with us.

We are also fortunate to have so many dedicated presenters comprising the technical program. We have a very robust agenda anchored by distinguished speakers from government, defense, industry and academia, covering topics like big data, artificial intelligence (AI), machine learning, and much more.

This year we have put a special emphasis on the ways M&S is impacting industries across the world. We are maintaining a focus on the Department of Defense (DoD), which continues to embrace the technologies of M&S, but we are also focusing on how industries outside DoD are seeing transformations empowered by M&S tools. We are especially focusing on how the rise of analytics and AI has a core reliance on tried and true M&S techniques and tools.

MODSIM is a great example of the ways M&S crosses domains and enables organizations to see step changes in their capabilities. We believe that the MODSIM World Conference will continue to grow into the evolving world of Analytics, AI, Internet of Things (IoT) and Cloud technologies. All of these areas have roots deep in the skills, tools and techniques that M&S professionals use every day.

Finally, I would like to thank the sponsors and exhibitors, our presenters, and speakers for being part of such an exceptional program. I am truly grateful to NTSA and to the incredibly dedicated members of the MODSIM World Committee for their tireless effort throughout the year to bring this event to you. Thank you for attending, and welcome to MODSIM World!

Sincerely,
Marco Estrada, Newport News Shipbuilding
Conference Chair, MODSIM World 2019





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L to R: Lakela Lofton, W.T. Williams, Helen Gault, Ali Harkous, Josh Hill,
Karl Lindman, Chloe Mallet and David Farris

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SCHEDULE AT A GLANCE

MONDAY, 22 APRIL

Registration Open

Granby Ballroom Foyer
1100 - 1730

General Session

Granby Ballroom DE
1230 - 1430

Exhibits Open

Granby Ballroom Foyer
1400 - 1900

Networking Break

Granby Ballroom Foyer
1430 - 1500

Special Events

Granby Ballroom DE
1500 - 1730

Opening Networking Event

Granby Ballroom Foyer
1730 - 1900

TUESDAY, 23 APRIL

Registration Open

Granby Ballroom Foyer
0700 - 1730

General Session

Granby Ballroom DE
0845 - 1000

Exhibits Open

Granby Ballroom Foyer
1000 - 1730

Networking Break

Granby Ballroom Foyer
1000 - 1030

Special Event

Granby Ballroom DE
1030 - 1200

Lunch and Exhibits

Granby Ballroom ABC and Foyer
1200 - 1300

Paper Session I

See Agenda for Rooms
1300 - 1500

Networking Break

Granby Ballroom Foyer
1500 - 1530

Paper Session II

See Agenda for Rooms
1500 - 1730

Offsite Networking Event

Blue Moon Restaurant, Waterside District
1730 - 1930

WEDNESDAY, 24 APRIL

Registration Open

Granby Ballroom Foyer
0700 - 1730

General Session

Granby Ballroom DE
0800 - 1000

Exhibits Open

Granby Ballroom Foyer
0930 - 1900

Networking Break

Granby Ballroom Foyer
1000 - 1030

Paper Session III

See Agenda for Rooms
1030 - 1200

STEM Event

Granby Ballroom Foyer
1030 - 1200

Lunch and Exhibits

Granby Ballroom ABC and Foyer
1200 - 1300

Paper Session IV

See Agenda for Rooms
1300 - 1500

Networking Break

Granby Ballroom Foyer
1500 - 1530

Special Event

Granby Ballroom DE
1530 - 1700

Closing Networking Event

Granby Ballroom Foyer
1700 - 1900

KEYNOTE SPEAKERS

Congressional Keynote

Monday, April 22 | 1245 – 1300 | Granby Ballroom DE



REP BOBBY SCOTT

Congressman
VA-03

Congressman Robert C. “Bobby” Scott has represented Virginia’s third congressional district in the U.S. House of Representatives since 1993. Prior to his service in Congress, he served in the Virginia House of Delegates from 1978 to 1983 and in the Senate of Virginia from 1983 to 1993.

During his tenure in the Virginia General Assembly, Congressman Scott successfully sponsored laws critical to Virginians in education, employment, health care, social services, economic development, crime prevention and consumer protection. His legislative successes in the state legislature included laws that increased Virginia’s minimum wage, created the Governor’s Employment and Training Council and improved health care benefits for women, infants and children.

Congressman Scott has the distinction of being the first African-American elected to Congress from the Commonwealth of Virginia since Reconstruction and only the second African-American elected to Congress in Virginia’s history. Having a maternal grandfather of Filipino ancestry also gives him the distinction of being the first American with Filipino ancestry to serve as a voting member of Congress.

Congressman Scott currently serves as the Chairman of the Committee on Education and Labor. In this capacity, he is advancing an agenda that improves equity in education, frees students from the burdens of crippling debt, protects and expands access to affordable health care, ensures workers have a safe workplace where they can earn a living wage free from discrimination, and guarantees seniors have a secure and dignified retirement.

From 2015-2018, he served as the ranking member of what was then called the Committee on Education and the Workforce and developed a strong record of working across the aisle to pass critical legislation. In 2015, he was one of the four primary authors of the Every Student Succeeds Act, which reauthorized the Elementary and Secondary Education Act for the first time in 13 years and replaced the No Child Left Behind Act. Additionally, in 2017, he worked to secure passage of legislation to reform and update our nation’s career and technical education system, as well as the juvenile justice system in 2018, which were both signed into law by President Donald Trump. The latter legislation, the Juvenile Justice Reform Act, contained core tenets of Congressman Scott’s Youth Prison Reduction through Opportunities, Mentoring, Intervention, Support, and Education (Youth PROMISE) Act, which he had introduced in every Congress since 2007.

Industry Keynote

Monday, April 22 | 1300 – 1330 | Granby Ballroom DE



MR. BRIAN FIELDS

VP of Business Transformation
Newport News Shipbuilding

Brian Fields is the vice president of Business Transformation for Newport News Shipbuilding, a division of Huntington Ingalls Industries. Named to this position in 2015, Fields is responsible for transforming all aspects of the business to be more agile and efficient with a special focus on people, technology and culture. In this role, he oversees all direct planning, supply chain planning and production control functions across the organization. This includes managing the Navy program work plans, reconciling workforce and capacity planning, and setting the pace for execution across the company. He is also responsible for the standardization of tools, planning processes and reporting metrics, as well as the Common Integrated Work Package (CiWP) effort to provide digital data to construction teams.

Fields most recently served as vice president of supply chain management and was responsible for sourcing and procurement, logistics and inventory control, transportation, and material operations across the organization. He has also served as director of the Gerald R. Ford aircraft carrier construction program, where he was responsible for managing ship design, manufacturing and construction efforts, including oversight of budget, schedule, technical details and contract performance. Prior to working as the Ford program director, Fields served in several engineering leadership positions, including responsibility for designing the Ford reactor and steam plant systems.

Fields began his career with the company as a test engineer in the Los Angeles-class submarine construction program. He has a bachelor’s degree in mechanical engineering from Auburn University and a master’s degree in business administration from the College of William and Mary. He is active in the community, serving on the board of directors for the Jamestown Yorktown Foundation and coaching in local youth sports leagues.

Senior Military Panel

Monday, April 22 | 1330 – 1430 | Granby Ballroom DE



CAPT TIMOTHY M. HILL, USN

Commanding Officer

Naval Air Warfare Center Training Systems Division (NAWCTSD)

The Naval Air Warfare Center Training Systems Division (NAWCTSD) is the Navy's principal center for modeling, simulation, and training systems technologies. The command provides training solutions and research for a wide spectrum of military programs, including aviation, surface & undersea warfare, and other specialized requirements.

Captain Hill leads a workforce of 1,200 scientists, evaluators, engineers, technicians, logisticians, contracting specialists, and support personnel.

Captain Tim Hill was commissioned with the U.S. Naval Academy Class of 1992 after earning a Bachelor of Science degree in Systems Engineering. As a Commanding Officer, Captain Hill has logged over 3,200 flight hours and 750 carrier arrested landings in 32 different aircraft models, with operational flying tours in the S-3B Viking and the F/A-18F Super Hornet. He also served various staff and acquisition program management roles. Captain Hill served as the Executive Officer for NAWCTSD for two and a half years prior to assuming command in November 2018. His awards include the Legion of Merit, Bronze Star Medal, 2 Defense Meritorious Service Medals, Meritorious Service Medal, 2 Strike Flight Air Medals, along with other personal awards and numerous campaign medals and unit citations.



COL ROBERT EPSTEIN, USAF

Commander

Air Force Agency for Modeling and Simulation (AFAMS)

Colonel Robert H. Epstein is commander of the Air Force Agency for Modeling and Simulation (AFAMS), which is the lead agent for centralized management of Air Force cross-functional and shared live, virtual and constructive operational training (LVC-OT) foundational capabilities and resources supporting the Air Force service core functions. As commander, Colonel Epstein is responsible for overseeing Air Force initiatives for enterprise solutions that will help build an efficient foundation to achieve "Readiness Thru LVC," and allow warfighters to maximize performance and decision-making.

Colonel Epstein received his commission through Air Force ROTC at the University of Cincinnati in 1995. He holds advanced academic degrees from Central Michigan University, Air Command and Staff College, Air War College and is a graduate of the Joint and Combined Warfighting School. He is a Joint Staff Officer who has held various operational, test and staff assignments and is a Navigator and Electronic Warfare Officer (EWO) who has flown operationally in support of Operations NORTHERN WATCH, SOUTHERN WATCH, JOINT GUARDIAN, JOINT ENDEAVOR, and ENDURING FREEDOM. Additionally, Colonel Epstein was the Chief of Joint Fires for the NATO mission in Afghanistan in 2009, responsible for planning, processing and prioritizing all close air support; and Chief EWO for NATO's combat mission in Libya in 2011, where he was directly responsible for all Coalition Electronic Warfare and Suppression of Enemy Air Defenses. Colonel Epstein has commanded at the squadron level and prior to his current assignment, served as the Director of the Commander's Action Group and Section Commander for the Air Force District of Washington (AFDW) and the 320th Air Expeditionary Wing, the air component of Joint Task Force – National Capital Region in direct support of the 58th Presidential Inauguration. As Section Commander, Colonel Epstein was the Uniform Code of Military Justice authority for Airmen located within the NCR, selected Field Operating Agencies, and selected Air Force elements.



COL LAWRENCE MULLANY, USA

Environment Operations Division Chief

Joint Staff J7 Deputy Directorate for Joint Training

COL Mullany is currently the JS J7 DDJT Environment Operations Division Chief.

He graduated from Indiana University in 1996 with a double major in Political Science and History, is a resident graduate of the US Army Command and General Staff College, and earned an MS degree in National Resource Strategy with a concentration in Supply Chain Management from the National Defense University's Eisenhower School in 2018.

COL Mullany led two platoons in an Infantry battalion in Germany, served as company executive officer, and commanded two companies. He additionally served as the Battle Command Officer for 3rd BCT 101st Airborne Division (Air Assault), served as a training officer and multinational exercise planner for U.S. Army Europe, aide-de-camp for the USAREUR CG, and as the Deputy Director of the Army National Simulation Center's Logistics Exercise and Simulation Directorate. He deployed to Bosnia-Herzegovina, Kosovo, Iraq, and the United Arab Emirates in support of Operation Joint Guard, Operation Joint Guardian, Operation Iraqi Freedom, and Operation Enduring Freedom.

KEYNOTE SPEAKERS

Government Keynote

Tuesday, April 23 | 0900 – 0930 | Granby Ballroom DE



DR. SAE SCHATZ

Director
ADL Initiative

Dr. Sae Schatz serves as the Director of the Advanced Distributed Learning (ADL) Initiative, a research and development program under the Deputy Assistant Secretary of Defense for Force Education and Training. Before joining the Government in 2015, Sae worked as an applied human–systems scientist, with an emphasis on human cognition and learning, instructional technologies, adaptive systems, human performance assessment, and modeling and simulation. During that time, she led the authorship and execution of the Marine Corps’ Making Good Instructor Great course and accompanying instructor tool kit. She was also the chief scientist for the award-winning Border Hunter research effort and the Joint Staff J7’s Blended Learning–Training project.

Sae has worked with the Defense training and education community for over 10 years. During that time her efforts frequently focused on ways to enhance individuals’ higher-order cognitive skills (i.e., the mental, emotional, and relational skills associated with “cognitive readiness”). She has authored more than 50 peer-reviewed scholarly publications, led development of 3 military textbooks, and received professional recognition for her publications and research, including best paper awards from the IITSEC and MODSIM conferences.

Sae also maintains close ties with her alma mater, the University of Central Florida. She formerly held an assistant professor position with the university, and she previously taught courses in visual design, web design and development, modeling and simulation, and human–systems interaction. Today, she continues to mentor UCF graduate students from the Institute for Simulation and Training, and she serves on the Digital Media Advisory Board.

CALL FOR ABSTRACTS OPEN

August 26-28, 2019 | Hilton Mark Center | Alexandria, VA | trainingsystems.org/events



In collaboration with the National Training and Simulation Association (NTSA), the Advanced Distributed Learning (ADL) Initiative is excited to announce iFest 2019. iFest provides unique opportunities for military, government, industry, and academia professionals to share the latest in distributed learning innovations.

iFEST 2019 is now accepting abstract submissions for the following distributed learning innovation topics:

- Learning Science for the Future
- Specifications and Standards: Development, Gaps, and Governance
- Learner Profiles in Practice
- Innovations in Course Catalogs and Activity Registries
- xAPI Profiles for DoD
- Competency and Credentialing Management
- Cyber Security and PII

Submit here: application.ndia.org/abstracts/91d0

Deadline to submit 17 May



- Aerospace Simulation & Training
- Aircrew Trainers
- Applied R&D
- Applied Systems Engineering
- AR/VR
- Big Data
- Classroom Training Products & Services
- Cloud Computing
- Computer Hardware
- Construction / Mining
- Consultancy/Project Management
- Cyber
- DIS IEEE 1278.1x or HLA 1516 Capable
- Disaster Relief/Planning Simulations
- Distance Learning
- Distributed Simulation and Learning
- Educational Products & Services
- Electronic Components
- Electronic Training/Synthetic
- Engineering/Damage Control Trainers
- Exercise Management
- Flight Simulation & Training
- Gaming
- Homeland Security Simulation & Training
- Instructional Systems Design
- LVC (Live, Virtual, Constructive)
- Manufacturing
- Medical Simulation & Training
- Mission Planning/Mission Rehearsal
- Modeling Services
- Oil, Gas, Energy
- Operational & Maintenance Services
- Operator/Driver Trainers
- Physical Training Equipment
- Pre-Brief/After Action Review
- Research & Development
- Shiphandling Trainers
- Simulation Security
- Simulation Software
- Simulation Toolkits
- Small Arms Training
- Small Business
- Staffing/Logistics Support
- STEM
- Tactics Trainers
- Trade Publication / Media
- Training Products
- Training Services
- Transportation
- Vehicle Trainers
- Verification & Validation
- Visual Computing
- Visual Display Products
- Weapon Systems Trainers & Equipment



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- ▶ 485 exhibitors
- ▶ 186,000 sq ft exhibit hall
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MONDAY, APRIL 22

1100 – 1730 **REGISTRATION OPEN**
GRANBY BALLROOM FOYER

1230 – 1245 **MODSIM WORLD 2019 WELCOME AND OPENING REMARKS**
GRANBY BALLROOM DE

Welcome and Opening Remarks

Mr. Marco Estrada

Integrated Digital Shipbuilding, Change Management and Communications, Newport News Shipbuilding
MODSIM World 2019 Conference Chair

Introduction of Congressional Keynote Speaker

RADM James A. Robb, USN (Ret)

President, National Training & Simulation Association

1245 – 1300 **CONGRESSIONAL KEYNOTE ADDRESS**
GRANBY BALLROOM DE

Congressman Bobby Scott

VA-03

1300 – 1330 **INTRODUCTION OF INDUSTRY KEYNOTE SPEAKER**
GRANBY BALLROOM DE

Mr. Marco Estrada

Integrated Digital Shipbuilding, Change Management and Communications, Newport News Shipbuilding
MODSIM World 2019 Conference Chair

Industry Keynote Address

Mr. Brian Fields

VP of Business Transformation, Newport News Shipbuilding

1330 – 1430 **SPECIAL EVENT: SENIOR MILITARY PANEL**
GRANBY BALLROOM DE

The theme for the Senior Military panel is “Training and Readiness in the Digital Age - how is the digital transformation affecting the way modern military trains.” The panel will aim to provide understanding of the challenges our military faces today to maintain readiness in a continuously changing digital world.

RADM James A. Robb, USN (Ret)

President, National Training & Simulation Association
Moderator

CAPT Timothy M. Hill, USN

Commanding Officer, Naval Air Warfare Center Training Systems Division (NAWCTSD)

COL Lawrence Mullany, USA

Environment Operations Division Chief, Joint Staff J7 Deputy Directorate for Joint Training

Col Robert Epstein, USAF

Commander, Air Force Agency for Modeling and Simulation (AFAMS)

1400 – 1900 **EXHIBIT HALL AND INNOVATION CORNER HOURS**
GRANBY BALLROOM FOYER

Innovation Corner: Extending Medical Training Beyond Reality

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 2019. Stop by, check out the demos and chat with Innovation Panel speakers at this unique event.

Demonstrations:

- **Quantified Design Solutions:** Real-Time facial animation, Scenario Design
- **JANUS Research:** Haptics, Scenario Design
- **Plas.md:** Real-Time motion capture, 3D Modeling, Scenario Design
- **ICF:** Subject Matter Expertise, Scenario Design

1430 – 1500 **NETWORKING BREAK AND DEDICATED EXHIBIT TIME**
GRANBY BALLROOM FOYER

1500 – 1630 **SPECIAL EVENT: "THE SIMULATION CENTURY" – THE BIG LEAP FROM BIG DATA TO IMMERSIVE INTELLIGENCE**
GRANBY BALLROOM DE

This is our seventh annual session to 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 can easily be applied to provide 10x returns on investment in less than twelve months! Don't miss this session for ideas you can implement this year with high multiple returns on investment.

Mr. Richard Boyd

"10x ROI Machine Learning Ideas to Implement this Year"

CEO, Tanjo, Inc.
Moderator

Mr. Troy Knight

"The Future of Learning: Advanced Technologies and Behavioral Nudges thru Gaming"

Founder & Chief Executive Officer, BLDG-25

Ms. Simona Georgescu

"Harnessing Simulation to Better Equip Manufacturers in an Evolving B2B World"

Founder & President, Adduco Communication

Mr. Allen Badeau

"Robotic Process Automation"

CTO, NCI Inc

1630 – 1730

SPECIAL EVENT: “A PAIR OF ACES” – YOUR DATA IN A BIG DATA SOCIETY GRANBY BALLROOM DE

In this second annual session, we will continue discussing the role of data in society. Is it for the people or simply of the people? A duality is at play - people share personal data to improve their healthcare and business transactions, yet there is growing concern in how the “ruling class” has performed in deploying increasingly sophisticated data science techniques to use their data. Our discussion focuses on data and trending data science techniques.

Join in on the discussion with your mobile device as our panelists provide insights on the use of personal data in a big data world and how striking a reasonable balance involves both people’s rights and responsibilities.

Mr. Jay Gendron
Data Scientist, USAA
Moderator

Dr. Eric Weisel
Executive Director, VMASC
Moderator

Dr. Justin Brunelle
Principal Researcher, The MITRE Corporation

Dr. Ralitsa Maduro
Quality Research Institute, Sentara Healthcare

Dr. Aaron Glassman
Chair, Department of Technology Management,
Embry-Riddle Aeronautical University -Worldwide

Dr. Jaclyn Simpkins
Instructor, EVMS-Sentara HADSI

Ms. Lauren Green, MPH
Clinical Data Specialist, EVMS-Sentara HADSI

1730 – 1900

OPENING NETWORKING EVENT GRANBY BALLROOM FOYER

Sponsored by: VMASC Industry Association

MODSIM World opening reception, a networking event on the opening night of the event that will include industry, academia and government attendees involved in the modeling and simulation community. This standing reception will be heavy appetizers and beverages served at various stations throughout the lobby of the Hilton, participants will have the chance to network and visit exhibitor tables to discover the latest in simulation technology.

Welcome Remarks

Mr. Marco Estrada
Integrated Digital Shipbuilding, Change Management and
Communications, Newport News Shipbuilding
MODSIM World 2019 Conference Chair

Mr. Rob Grimes
General Dynamics Information Technology
VMASC Industry Association Co-Chair

TUESDAY, APRIL 23

0700 – 1730 **REGISTRATION OPEN**
GRANBY BALLROOM FOYER

0745 – 0845 **CONTINENTAL BREAKFAST**
GRANBY BALLROOM FOYER

0845 – 0900 **DAY TWO WELCOME AND OPENING REMARKS**
GRANBY BALLROOM DE

Opening Remarks**Mr. David Jones**

President, Quantified Design Solutions
MODSIM World 2020 Conference Chair

Introduction of Government Keynote Speaker**RADM James A. Robb, USN (Ret)**

President, National Training & Simulation Association

0900 – 0930 **GOVERNMENT KEYNOTE SPEAKER**
GRANBY BALLROOM DE

Government Keynote Address**Dr. Sae Schatz**

Director, ADL Initiative

0930 – 1000 **SPECIAL EVENT: INTERNATIONAL PERSPECTIVE – THE STORY OF FINLAND'S DIGITAL TRANSFORMATION**
GRANBY BALLROOM DE

Join us, as Finland's Executive Director for Digital Transformation of Finnish Industries, Mr. Pekka Sivonen, an accomplished global leader in Digital Transformation shares Finland's journey in successfully implementing a nationwide strategy and structure to become one of the world's leaders in digital infrastructures/economy enabling all key vertical market segments. Pekka will share Finland's Digital Transformation Strategy, already a success story and also discuss what the future holds for Finland's Digital Strategy including collaboration opportunities.

Mr. Pekka Sivonen

Executive Director, Digital Transformation of Finnish Industries Ecosystems, Business Finland

1000 – 1730 **EXHIBIT HALL AND INNOVATION CORNER HOURS**
GRANBY BALLROOM FOYER

1000 – 1030 **NETWORKING BREAK AND DEDICATED EXHIBIT TIME**
GRANBY BALLROOM FOYER

AGENDA | TUESDAY, APRIL 23

1030 – 1200 **SPECIAL EVENT: DEFENSE AND HOMELAND SECURITY PANEL – THE DISRUPTION OF CONVENTIONS IN DEFENSE AND HOMELAND SECURITY BY MODELING AND SIMULATION**
GRANBY BALLROOM DE

The integration of modeling and simulation into defense and homeland security will fundamentally change how we plan, train, prepare and perform our stated missions. It also involves a cultural change that will require us to continually challenge the status quo and experiment often in order to optimize our mission effectiveness. This might mean walking away from long-standing processes and beliefs in favor of practices that are still being defined. This panel will explore which conventions need to change, emerging new practices, and the benefits to Defense and Homeland Security.

Mr. Chris Davidson

Lieutenant Commander, RAN, Naval Surface Warfare Center Dahlgren Division - Dam Neck Activity
Moderator

Dr. Syed Mohammad

Director, Modeling and Simulation Technology Center, Department of Homeland Security Science and Technology Directorate

Mr. Wayne Buck

Modelling & Simulation Specialist, NATO Capability Development Division of Allied Command Transformation

Dr. Eric Weisel

Executive Director, VMASC

Mr. David Shuttleworth

Research, Development, and Acquisition Community Lead, Navy Modeling and Simulation Office

1200 – 1300 **LUNCH AND DEDICATED EXHIBIT TIME**
GRANBY BALLROOM ABC AND GRANBY BALLROOM FOYER

1300 – 1500 **PAPER SESSION I**

Analytics and Decision-Making Track
FUSION

- | | | |
|-------------|---|--|
| 1300 – 1330 | Quantum Computing: Evaluating Potential Quantification of Projective Psychological Test Scoring
Dr. Mark Davis
Wood Duck Research | |
| 1330 – 1400 | Leveraging IIoT for Machine Self-Healing While the Pool of Experienced Maintenance Mechanics Slowly Evaporates
Mr. Chris Lang
Old Dominion University | |
| 1400 – 1430 | A Tabu Search Heuristic for a Mixed Strength Sensor Location Problem
Dr. Rex Kincaid
College of William and Mary | |
| 1430 – 1500 | Avoiding Big Data Overload in an Adaptive Training Use Case
Dr. Brent Fegley
Aptima, Inc. | Dr. Alan Carlin
Aptima, Inc. |

Cross Reality Track IMAGINATION

- | | |
|-------------|---|
| 1300 – 1330 | The Past Present and Future of XR for Space Exploration
Mr. Joel Ryan
Big Timber Games, SAIC |
| 1330 – 1400 | Augmented Reality for Training and Operational Support Solutions
Ms. Claire Hughes
Design Interactive Inc. |
| 1400 – 1430 | Photogrammetry in 3D Content Development
Mr. Joel Ryan
Big Timber Games, SAIC |
| 1430 – 1500 | A Mixed Reality Platform for Enhanced Military Training
Mr. Craig Clark
Kratos Technology and Training Solutions |

Science and Engineering Track ENERGY 2

- | | |
|-------------|---|
| 1300 – 1330 | Test and Evaluation of Autonomous Vehicles using Simulated Environments
Mr. Thomas Laverghetta
Old Dominion University |
| 1330 – 1400 | Objective Metrics for Evaluating Flight Training Simulators
Mr. Ahmad Momani
Binghamton University |
| 1400 – 1430 | Monte Carlo Simulation of Hedonic Games
Dr. Andrew Collins
Old Dominion University |

Training and Education Track ENERGY 1

- | | |
|-------------|--|
| 1300 – 1330 | Considerations for Training Evaluations of Emerging Technologies
Dr. Julian Abich, IV
Quantum Improvements Consulting |
| 1330 – 1400 | New Paradigms Call for New Evaluation Methods: Moving Beyond Kirkpatrick
Ms. Lara Bove
SAIC |
| 1400 – 1430 | Improving Workforce Development Initiatives using Augmented Reality Technology
Ms. Mia Joe
Newport News Shipbuilding |
| 1430 – 1500 | Advancing Telemedicine through Medical Simulation in Emergency Medicine
Dr. Jessica Schoen
Mayo Clinic Health System, Albert Lea and Austin |

AGENDA | TUESDAY, APRIL 23

1500 – 1530 **NETWORKING BREAK AND DEDICATED EXHIBIT TIME**
GRANBY BALLROOM FOYER

1530 – 1730 **PAPER SESSION II**

Analytics and Decision-Making Track FUSION

- | | |
|-------------|---|
| 1530 – 1600 | Word Has It: Text Analytics for Topic Modeling of MODSIM Track Papers
Mr. Jay Gendon
USAA |
| 1600 – 1630 | Using AI and Natural Language Generation to Automate Pharmaceutical Clinical Study Reports
Mr. Jeffery McCrindle
Yseop |
| 1630 – 1700 | Building a Machine Learning Classification Pipeline for Predicting Navy Reserve Mobilization Cancellations
Mr. Andrew Turscak
Booz Allen Hamilton
Mr. Mark Moreno
CNRFC
Dr. Robert Milletich
Booz Allen Hamilton |
| 1700 – 1730 | Understanding the Prevalence of Bidirectional Architecture in Language Models
Mr. Ryan Baxley
Franciscan University of Steubenville |

Cross Reality Track IMAGINATION

- | | |
|-------------|--|
| 1530 – 1730 | Panel: Measuring and Optimizing the Impact of XR Experiences - Impact Results and Lessons Learned
Mr. Vance Souders
Plas.md
Mr. Kishan Shetty
JANUS Research
Mr. David Jones
Quantified Design Solutions
Mr. Tyler Gates
Brightline Interactive |
|-------------|--|

Science and Engineering Track ENERGY 2

- | | |
|-------------|---|
| 1530 – 1600 | <p>A Reusable Simulation Environment for Digital Engineering
 Mr. George Gilman
 NSWC PCD</p> |
| 1600 – 1630 | <p>Explorative Visualization of Volume Flow Data via Slice Textures
 Mr. Ahmet Saglam
 Old Dominion University</p> |
| 1630 – 1700 | <p>Human Subjects Experiment Data Collection for Validating an Agent-based Model
 Dr. Andrew Collins
 Old Dominion University</p> |
| 1700 – 1730 | <p>Development of BIM (Building Information Modeling) concept applied to projects of Substations Integrated with the Geographic Intelligence System (GIS)
 Dr. Gerson Flavio Mendes De Lima
 Federal University of Uberlandia</p> |

Training and Education Track ENERGY 1

- | | |
|-------------|--|
| 1530 – 1600 | <p>Enhancements for Homeschooling and ADL: Virtual Humans, Technologies and Insights
 Dr. Mark Davis
 Wood Duck Research</p> |
| 1600 – 1630 | <p>Pedagogical Tools to Enhance Communication Skills: Interactive Virtual Tutorial Environments
 CDR Dan Davis, USN (Ret)
 University of Southern California</p> |
| 1630 – 1700 | <p>Monitoring Engagement and Motivation Across Learning Environments
 Dr. Benjamin Bell
 Eduworks Corporation</p> |
| 1700 – 1730 | <p>Enabling Enactive Learning to Implement Modeling, Simulation and Training Technologies
 Mr. Nicholas Armendariz
 University of Central Florida</p> |

1730 – 1930 **OFFSITE NETWORKING EVENT**
 BLUE MOON RESTAURANT, WATERSIDE DISTRICT

*Pre-registration and pre-payment are required for this event

Sponsored by: Unreal Engine

Welcome Remarks

Mr. Sébastien Lozé
 Unreal Engine

WEDNESDAY, APRIL 24

0700 – 1730 **REGISTRATION OPEN**
GRANBY BALLROOM FOYER

0730 – 0830 **CONTINENTAL BREAKFAST**
GRANBY BALLROOM FOYER

0800 – 0815 **DAY THREE OPENING REMARKS**
GRANBY BALLROOM DE

Opening Remarks

Mr. Matt Spruill

Chairman, Virginia Modeling and Simulation Partnership (VMSP)

Introduction of Senior Leader Panel

Mr. Joe Bricio

Senior S&T Engineer, NSWC Dahlgren

0815 – 1000 **SPECIAL EVENT: SENIOR LEADER PANEL – ENABLERS FOR DIGITAL TRANSFORMATION**
GRANBY BALLROOM DE

Our ability to successfully execute an organization's digital transformation is closely related to how to embrace innovation. Innovation creates uncertainty. Uncertainty creates a human and organizational need to seek more knowledge and information about the innovation and understanding the opportunities and risks involved embracing innovation. Senior Leaders from Government and Industry will share their challenges, opportunities, and principles related to embracing modeling and simulation as an enabler for an organization's digital transformation.

RADM James A. Robb, USN (Ret)

President, National Training & Simulation Association
Moderator

Mr. Bob Armstrong

Eastern Virginia Medical School (EVMS))

Dr. Roger Barga

General Manager and Director of Development, Amazon Web Services

Mr. Sanjay Sardar

Vice President of Operations, Solutions and Technology Group, SAIC

Dr. Marty Irvine

Technical Operations Manager, Combat Direction Systems Activity - Dam Neck

Dr. James Moreland

OUSD A&S Director, Maritime Interdiction

Mr. Pekka Sivonen

Executive Director, Digital Transformation of Finnish Industries Ecosystems, Business Finland

0930 – 1900 **EXHIBIT HALL AND INNOVATION CORNER HOURS**
GRANBY BALLROOM FOYER

1000 – 1030 **NETWORKING BREAK AND DEDICATED EXHIBIT TIME**
GRANBY BALLROOM FOYER

1030 – 1200 PAPER SESSION III

Analytics and Decision-Making Track

FUSION

- | | |
|-------------|--|
| 1030 – 1100 | <p>The Power of Training Simulations to Support AGILE Acquisition Testing and Experimentation of Advance Analytic Algorithms and Artificial Intelligence</p> <p>Mr. Mike Saluto
Operational Test Command (OTC)</p> |
| 1100 – 1130 | <p>The Application of Data Farming to Hybrid Warfare Scenarios for Wargaming</p> <p>Dr. Gary Horne
MCR Global</p> |
| 1130 – 1200 | <p>Defining Decision Types in a Combating Weapons of Mass Destruction Simulation</p> <p>Dr. Grace Teo
University of Central Florida's Institute for Simulation and Training</p> |

Cross Reality Track

IMAGINATION

- | | |
|-------------|---|
| 1030 – 1100 | <p>Pros and Cons of AR/VR in Healthcare</p> <p>Mr. Bob Armstrong
SCSIL (Sentara Center for Simulation Immersive Learning)</p> |
| 1100 – 1130 | <p>The Immersive Ecosystem: The Answer to Readiness</p> <p>Mr. Tyler Gates
Brightline Interactive</p> |
| 1130 – 1200 | <p>Simulation in XR: Enabling Training Mode in The Human Brain</p> <p>Mr. Sébastien Lozé
Unreal Engine</p> |

Science and Engineering Track

ENERGY 2

- | | | | |
|--|--|--|--|
| 1030 – 1100 | <p>Simulation for the Common Man: How do We Make M&S Accessible?</p> <p>Mr. Ying Thavipoke
Old Dominion University</p> | | |
| 1100 – 1130 | <p>Making the Case for Inter-industry/Inter-disciplinary MS&V Collaboration; Cooperation for Mutual Benefit</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Mr. Rick Severinghaus
National Modeling & Simulation Coalition</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Mr. Bob Armstrong
Eastern Virginia Medical School (EVMS)</p> </td> </tr> </table> | <p>Mr. Rick Severinghaus
National Modeling & Simulation Coalition</p> | <p>Mr. Bob Armstrong
Eastern Virginia Medical School (EVMS)</p> |
| <p>Mr. Rick Severinghaus
National Modeling & Simulation Coalition</p> | <p>Mr. Bob Armstrong
Eastern Virginia Medical School (EVMS)</p> | | |
| 1130 – 1200 | <p>Integration of Technological Changes into long-term Planning: An Agent Based Modeling Approach</p> <p>Mr. Miguel Toro Jarrin
Old Dominion University</p> | | |

AGENDA | WEDNESDAY, APRIL 24

Training and Education Track ENERGY 1

- | | | |
|-------------|---|--|
| 1030 – 1100 | Democratization of Immersive Virtual Reality (VR) Content Creation Through a VR Authoring Tool: The Evolution of Training
Dr. Teresa Riech
Jump Simulation and Education | Dr. Matthew Bramlet
Jump Simulation and Education |
| 1100 – 1130 | Simulation Based Training's Incorporation of Machine Learning
Dr. Ivar Oswald
Alion Science and Technology Corporation | Dr. Tim Cooley
DynamX Consulting |
| 1130 – 1200 | Automated Content Discovery and Learning Objective Alignment: Like MAGIC
Dr. Benjamin Bell
Eduworks Corporation | |

1030 - 1200

STEM EVENT GRANBY BALLROOM FOYER

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 – 1300

LUNCH AND DEDICATED EXHIBIT TIME GRANBY BALLROOM ABC AND GRANBY BALLROOM FOYER

Scholarship Recognition

Dr. Andy Collins
Assistant Professor, Old Dominion University

RADM James A. Robb, USN (Ret)
President, National Training & Simulation Association

1300 – 1500

PAPER SESSION IV

Analytics and Decision-Making Track 1 FUSION

- | | | |
|-------------|--|--|
| 1300 – 1330 | "Predicting the Unpredictable" make crucial decisions in real time
Mr. Nissim Titan
4Cast | Mr. Morgan Brooke
4Cast |
| 1330 – 1400 | PULSEbox: A High Fidelity, Certified-Threat Scene Generator
Mr. Peter Grossman
Systems Engineering Group, Inc. | Mr. Julien Pierru
Systems Engineering Group, Inc. |
| 1400 – 1430 | Population Disease Occurrence Models Using Evolutionary Computation
Dr. Jacob Barhak
Independent Researcher | |
| 1430 – 1500 | Homeland Security and Emergency Management Grant Allocation Multi-objective Benefit-Cost Methodology
Ms. Kaleen Lawsure
VMASC | |

Analytics and Decision-Making Track 2 IMAGINATION

- | | |
|-------------|---|
| 1300 – 1330 | <p>Creating a Network Digital Twin using Full-Fidelity Virtual Hardware
COL Charles Burdick, USA (Ret)
Innovative Decisions, Inc.</p> |
| 1330 – 1400 | <p>An Agent-Based Model Approach to Understanding Complexity in International Relations
Mr. Lowell Wilson
George Mason University</p> |
| 1400 – 1430 | <p>Regional Collaboration for Economic Growth; ‘Maximizing Hampton Roads Business Assets’
Mr. Rick Severinghaus
National Modeling & Simulation Coalition</p> |
| 1430 – 1500 | <p>Industrial System Process Modeling Using Agent Based Modeling & Simulation
Dr. Yasemin Çetin
METU-TAF MODSIMMER</p> |

Science and Engineering Track ENERGY 2

- | | | |
|-------------|---|---|
| 1300 – 1500 | <p>Workshop: Development of a Technological Roadmap for Modeling and Simulation
Mr. Miguel Toro Jarrin
Old Dominion University</p> | <p>Dr. Andrew Collins
Old Dominion University</p> |
|-------------|---|---|

Training and Education Track ENERGY 1

- | | |
|-------------|---|
| 1300 – 1400 | <p>Featured Speaker: Shedding light on Brain Training using Functional Optical Brain Monitoring
Dr. Hasan Ayaz
Drexel University</p> |
| 1400 – 1430 | <p>Using fNIRS Technology to Measure Emotional Regulation in Simulation Training
Ms. Nina Rothstein
Drexel University</p> |
| 1430 – 1500 | <p>Neuroadaptive Training for Flight Simulator Skill Improvement
Mr. Jesse Mark
Drexel University</p> |

1500 – 1530 **NETWORKING BREAK AND DEDICATED EXHIBIT TIME**
GRANBY BALLROOM FOYER

1530 – 1700 **SPECIAL EVENT: ENGAGING THE FUTURE OF MODELING & SIMULATION**
GRANBY BALLROOM DE

The Engaging the Future of Modeling and Simulation Session is devoted exclusively to research findings presented by undergraduate and/or graduate students and will consist of informal discussions between presenters and facilitate the exchange of current, research-based information pertaining to modeling and simulation. This session provides a more intimate forum for exchange than do regular paper presentations. It also provides an opportunity for students at universities and institutions to gain public speaking experience in a professional environment and presents a forum in which existing professionals may meet their rising peers. Best papers and presentations from the ODU M&S student capstone conference will be presented.

1700 – 1900 **CLOSING NETWORKING EVENT**
GRANBY BALLROOM FOYER

Sponsored by: VMASC – MSVE & VMASC

MODSIM closing reception, a networking event on the final night of MODSIM that will bring together attendees after a week of collaboration, to discuss lessons learned and the way forward. This standing reception will be light appetizers and beverages served at various stations throughout the lobby of the Hilton, participants will have the chance to network and visit exhibitor tables to discover the latest in simulation technology. Alumni of the ODU MSVE Department are invited to attend.

Welcome Remarks

Dr. Roland Mielke
VMASC – MSVE

Ms. Tracy Gregorio
President, G2 Ops, Inc.
VMASC Industry Association Board Member



ITEC

14-16 May 2019

Stockholmsmässan, Sweden



ITEC

28-30 April 2020

ExCeL, London, UK



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SPECIAL EVENTS

MONDAY, APRIL 22

SENIOR MILITARY PANEL

1330 - 1430 | GRANBY BALLROOM DE

The theme for the Senior Military panel is “Training and Readiness in the Digital Age - how is the digital transformation affecting the way modern military trains.” The panel will aim to provide understanding of the challenges our military faces today to maintain readiness in a continuously changing digital world.

INNOVATION CORNER

1400 - 1900 | GRANBY BALLROOM FOYER

Extending Medical Training Beyond Reality

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 2019. Stop by, check out the demos and chat with Innovation Panel speakers at this unique event. Participating companies: Quantified Design Solutions, JANUS Research, Plas.md, and ICF.

“THE SIMULATION CENTURY” – THE BIG LEAP FROM BIG DATA TO IMMERSIVE INTELLIGENCE

1500 - 1630 | GRANBY BALLROOM DE

This is our seventh annual session to 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 can easily be applied to provide 10x returns on investment in less than twelve months! Don’t miss this session for ideas you can implement this year with high multiple returns on investment.

“A PAIR OF ACES” – YOUR DATA IN A BIG DATA SOCIETY

1630 - 1730 | GRANBY BALLROOM DE

In this second annual session, we will continue discussing the role of data in society. Is it for the people or simply of the people? A duality is at play - people share personal data to improve their healthcare and business transactions, yet there is growing concern in how the “ruling class” has performed in deploying increasingly sophisticated data science techniques to use their data. Our discussion focuses on data and trending data science techniques.

Join in on the discussion with your mobile device as our panelists provide insights on the use of personal data in a big data world and how striking a reasonable balance involves both people’s rights and responsibilities.

TUESDAY, APRIL 23**INTERNATIONAL PERSPECTIVE – THE STORY OF FINLAND’S DIGITAL TRANSFORMATION**

0930 - 1000 | GRANBY BALLROOM DE

Join us, as Finland’s Executive Director for Digital Transformation of Finnish Industries, Mr. Pekka Sivonen, an accomplished global leader in Digital Transformation shares Finland’s journey in successfully implementing a nationwide strategy and structure to become one of the world’s leaders in digital infrastructures/economy enabling all key vertical market segments. Pekka will share Finland’s Digital Transformation Strategy, already a success story and also discuss what the future holds for Finland’s Digital Strategy including collaboration opportunities.

INNOVATION CORNER

1000 - 1730 | GRANBY BALLROOM FOYER

Extending Medical Training Beyond Reality

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DEFENSE AND HOMELAND SECURITY PANEL – THE DISRUPTION OF CONVENTIONS IN DEFENSE AND HOMELAND SECURITY BY MODELING AND SIMULATION

1030 - 1200 | GRANBY BALLROOM DE

The integration of modeling and simulation into defense and homeland security will fundamentally change how we plan, train, prepare and perform our stated missions. It also involves a cultural change that will require us to continually challenge the status quo and experiment often in order to optimize our mission effectiveness. This might mean walking away from long-standing processes and beliefs in favor of practices that are still being defined. This panel will explore which conventions need to change, emerging new practices, and the benefits to Defense and Homeland Security.

WEDNESDAY, APRIL 24**SENIOR LEADER PANEL – ENABLERS FOR DIGITAL TRANSFORMATION**

0815 - 1000 | GRANBY BALLROOM DE

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THE SIMULATION CENTURY BIOGRAPHIES

Monday, April 22 | 1500 - 1630 | Granby Ballroom DE



MR. RICHARD BOYD

CEO
Tanjo, Inc.

Richard Boyd is the CEO of Tanjo Inc, a human-based neural net company designed to improve content discovery and information curation on the Net. Over the last twenty-five years Richard has led or helped create some of the most innovative game technology companies in the industry. He has served as a game technology consultant for a wide variety of industries including energy, healthcare, education and motion pictures. At Aerospace giant Lockheed Martin he created and led a group of innovative engineers and designers across all mission areas called Virtual World Labs. Richard joined Lockheed Martin in 2007 with the acquisition of 3Dsolve, a North Carolina based computer game technology firm where he was founder and CEO. Richard served for a decade on the executive management team of Virtus Corporation where he helped create several pioneering computer gaming companies including Red Storm Entertainment, with author Tom Clancy; iRock Entertainment with Ozzy Osbourne; and Timeline Computer Entertainment, with author Michael Crichton.



MR. TROY KNIGHT

Founder & Chief Executive Officer
BLDG-25

Troy has twenty + years of experience in the gaming, learning and design industries and is an entrepreneur at heart. His experience began in the seminal days of virtual reality and gaming in the mid '90s. After working with Tom Clancy on the first game title with Red Storm Entertainment Troy then helped to spin out a company from the Virtus Corporation that focused on creating business applications using gaming engine platforms and Virtual Reality applications. In 2001 he became founder and CEO of a creative and digital agency, Bluemoon Design, which created interactive media, e-learning applications, simulations and serious game platforms. After Bluemoon's main client expanded their operations, they acquired Bluemoon to run the global productions division. Through the years, Troy saw a gap in the marketplace for experts needed in the industries of learning, design, and gaming. To meet the demand, Troy built a consultative practice for a national consulting firm Vaco that supported those industries in building strategies and team structures with that core expertise. As the practice accelerated, more clients were tapping into the expertise that Troy provided to strategize, develop products and create custom solutions. Troy spun out the division and launched BLDG-25, Inc. in 2015 as a Software and User Experience company creating leading-edge digital strategies leveraging their gaming, learning and design expertise.



MR. ALLEN BADEAU

CTO
NCI Inc

Dr. Allen Badeau Jr. is the Chief Technology Officer for NCI, as well as the Director of the NCI Center for Rapid Engagement and Agile Technology Exchange (NCI CREATE). He is responsible for the identification of technical opportunities and risks associated with the enterprise's IT ecosystem. As part of his role, he coordinates innovation research and development activities that work to add value to our customers and their missions, which includes technical areas such as Artificial Intelligence, Quantum Computing, and Software Defined Networks. He monitors technology and social trends that may impact the enterprise and is responsible for vendor relationship management. He participates in management decisions about operation governance, strategy, and operational optimization. He communicates IT technology strategy to partners, management, and employees. Prior to joining NCI Allen held a variety of leadership roles at ARSC Federal, CSC, Innovative Management and Technology Services and Lockheed Martin.



MS. SIMONA GEORGESCU

Founder & President
Adduco Communication

Simona Georgescu is the founder and president of Adduco Communication, one of this country's leading Business to Business public relations firms. Georgescu is a frequently sought-after speaker at global conferences, sharing her expertise with C-level executives across a wide range of industries. Her extensive background in packaging, printing, graphic arts, manufacturing, cannabis, beauty and supply-chain companies enables her to design and implement integrated marketing, business development and sales strategies for some of the world's most popular industrial brands.

YOUR DATA IN A BIG DATA SOCIETY BIOGRAPHIES

Monday, April 22 | 1630 - 1730 | Granby Ballroom DE



MR. JAY GENDRON

Data Scientist
USAA

Jay Gendron is a data scientist with USAA. He is a business leader and algorithmic creative on a quest to show how good questions and compelling visualizations make analytics accessible to decision makers. He is a machine learning engineer, an award-winning speaker, founder of Data Science Management, a speaker at George Mason University, and mentor to data science graduate students. Jay is the author of *Introduction to R for Business Intelligence* as well as book chapters published by Springer and Elsevier on various data science topics. For more information, please visit www.linkedin.com/in/jaygendron.



DR. JUSTIN BRUNELLE

Principal Researcher
The MITRE Corporation

Dr. Justin F. Brunelle is a Principal Researcher and technical leader at The MITRE Corporation; his research interests include web sciences, cloud computing, big data, and other emerging technology spaces. He leads many internally- and government-funded research and development projects that aim to improve the use of technology within the US Federal Government. In addition, he has several roles within MITRE. As the Software Engineering Tech Center's Technical Integrator, Justin is responsible for setting research goals, coordinating contributions to internal and external research programs, and mentoring researchers from the division's nearly 500 employees.



DR. AARON GLASSMAN

Chair, Department of Technology Management
Embry-Riddle Aeronautical University -Worldwide

Dr. Aaron Glassman is an expert in the multi-disciplinary field of technology management; the intersection of people, technology, strategy, and business operations. His areas of expertise include the use of data in decision making, developing agile and reliable organizations, and the science of enterprise architecture. He has consulted for airlines and private sector and has published numerous peer-reviewed articles and book chapters in these areas as well as presented these concepts to both industry and academia. Dr. Glassman is also a skilled influencer and certified coach who focuses much of his research on solving business problems by asking the right questions, collecting and analyzing the needed data, and turning the analysis into useful insight from which organizational decisions can be made. In his current role as the Chair of the Technology Management Department at Embry-Riddle Aeronautical University Worldwide, he works with a skilled faculty team and an active industry advisory board to deliver quality academic programs across numerous technology disciplines that serve the aerospace community and beyond.



MS. LAUREN GREEN, MPH

Clinical Data Specialist
EVMS-Sentara HADSI

Lauren Green earned her Master of Public Health degree in Epidemiology from The George Washington University in 2015. She is currently a Clinical Data Specialist for the Eastern Virginia Medical School Healthcare Analytics Delivery Science Institute (HADSI) where she utilizes electronic health records to evaluate real-world innovations aimed at improving clinical outcomes. Lauren's previous work as an Epidemiologist within the Department of the Navy focused on the surveillance of occupational and environmental exposures in military populations. Experience working with large amounts of clinical data has led to her interest in the use of cognitive computing to improve population health management and decrease the cost of healthcare.

YOUR DATA IN A BIG DATA SOCIETY BIOGRAPHIES

Monday, April 22 | 1630 - 1730 | Granby Ballroom DE



DR. RALITSA MADURO

Quality Research Institute
Sentara Healthcare

Dr. Ralitsa Maduro has a broad background in experimental and clinical research, with specific training and expertise in experimental, quasi-experimental, non-experimental methodology and design. In addition, she has expertise in latent and observed variable predictive modeling with a wide variety of statistical analyses including discrete-time and continuous-time survival analysis, exploratory and confirmatory factor analysis (specification, identification and estimation), structural regression/equation analysis, latent growth analysis, interaction effects of observed and latent variables (moderation, mediation, moderated mediation and mediated moderation), bootstrapping, and item response theory (IRT) analysis. Dr. Maduro's prior research includes health, stigma, decision-making, and parenting topics which have yielded 15 peer-reviewed manuscripts and 40 peer-reviewed conference presentations and talks. As PI or co-Investigator on several manuscripts, and in her role as the biostatistician at Sentara Quality Research Institute, she has been responsible for collaborating with various team members on designing research studies, obtaining health-related information, implementing analytical plans, interpreting results, and communicating results to varied audiences.



DR. JACLYN SIMPKINS

Instructor
EVMS-Sentara HADSI

Dr. Jaclyn Simpkins has a dual appointment at Eastern Virginia Medical School (EVMS) where she works as a Faculty Instructor for the School of Health Professions in the Master of Healthcare Analytics Program and as an Epidemiologist for the Healthcare Analytics and Delivery Science Institute (HADSI) supporting the research of other medical students, residents, and faculty. She received her doctoral degree in Genetic Epidemiology from the University of North Carolina at Chapel Hill. Dr. Simpkins specializes in the field of precision medicine using data from candidate gene studies, genome-wide association studies, and next generation sequencing to make inferences on better treatment and management options for individuals at risk of cardiovascular diseases.

DEFENSE AND HOMELAND SECURITY PANEL BIOGRAPHIES

Tuesday, April 23 | 1030 – 1200 | Granby Ballroom DE



DR. SYED MOHAMMAD

Director, Modeling and Simulation Technology Center
Department of Homeland Security Science and Technology Directorate

Dr. Syed Mohammad joined the Department of Homeland Security Science and Technology Directorate in 2014 and serves as the Director for the Modeling and Simulation Technology Center within the Office of Science and Engineering, Technology Centers Division.

Syed started his career in 2001 with U.S. Army Tank-automotive RD&E Center supporting the Army's ground vehicle Modeling and Simulation activities. He later served as the Lead Engineer for the Mine Resistant Ambush Protected (MRAP) RG-31 platform, and as the Deputy Product Manager for MRAP All-Terrain Vehicles. As the civilian deputy, he provided acquisition oversight of a fleet of over 8,500 vehicles and a logistics footprint in excess of \$6B. His final assignment with DOD was at the Pentagon as a Systems Coordinator for Force Projection assigned to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. Throughout his career, Syed has supported collaboration within the Acquisition, R&D, and Test & Evaluation communities.

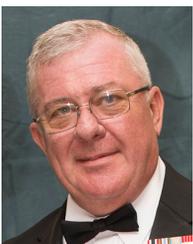
Syed holds a BSE (Computer Eng.) and MSE (Industrial and Operations Eng.) from the University of Michigan, a Ph.D. in Modeling and Simulation from the University of Central Florida, and an MBA from the University of North Carolina's Kenan-Flagler Business School.



DR. ERIC WEISEL

Executive Director
VMASC

Dr. Eric Weisel leads business process and technology innovation for academic and commercial research enterprises. As Executive Director at Old Dominion University's Virginia Modeling, Analysis, and Simulation Center, he provides executive institutional, financial, and technical leadership for a university enterprise research center focusing on digital innovation in autonomous and virtual systems; computational healthcare; cybersecurity and critical infrastructure protection; digital shipbuilding; policy and decision-making; sensors, data, and semantics; readiness and warfighter performance research for government and commercial sponsors. Dr. Weisel is active in academic and industry service within the modeling and simulation community—he serves on the Boards of Directors for the Society for Modeling & Simulation International and the Commonwealth Center for Advanced Manufacturing; participates on the conference committee for the Interservice/Industry Training, Simulation, and Education Conference; and teaches courses, also at Old Dominion University, in Engineering Management and Modeling, Simulation, and Visualization Engineering. His research interests include simulation formalisms; verification, validation, and accreditation of computer simulations; model-based decision theory; and semantic software systems.



MR. WAYNE BUCK

Modelling & Simulation Specialist
NATO Capability Development Division of Allied Command Transformation

Wayne Buck is a modelling and simulation specialist employed in the Future Solutions, Modelling and Simulation Branch of the Capability Development Division of Allied Command Transformation. His primary duties concern researching and prototyping changes to policy and requirements concerning the use of modelling and simulation in NATO.

Wayne's current interests involve using simulation to better inform decision making for warfare development, planning, operations, and assessment. He also actively promotes the use of wargaming to help develop new concepts and to educate staff.

Having served 29 years in the Canadian Army, Wayne is well aware of the needs of the warfighter. Throughout his career, he had the privilege and pleasure of working with and commanding troops at many levels within Canada, the United States and on missions. He enjoys living in Norfolk, Virginia with his wife where it seldom snows.

DEFENSE AND HOMELAND SECURITY PANEL BIOGRAPHIES

Tuesday, April 23 | 1030 – 1200 | Granby Ballroom DE



MR. DAVID SHUTTLEWORTH

Development, and Acquisition Community Lead
Navy Modeling and Simulation Office

David Shuttleworth is a member of the Department of Navy's Modeling and Simulation Office and serves as the Research, Development, and Acquisition Community Lead. He is also the Surface Warfare (SUW) Modeling and Simulation (M&S) Lead at the Naval Surface Warfare Center (NSWC), Dahlgren Division.

Mr. Shuttleworth has over 18 years of M&S and Analysis experience across the acquisition lifecycle, including gap analysis, analysis of alternatives, early system design, test and evaluation, and leading strategic efforts designed to institutionalize and research state of the art M&S capabilities.

Mr. Shuttleworth's current efforts include managing and directing M&S efforts as it applies to simulation interoperability, developing integrated Live/Virtual/Constructive (LVC) simulation environments, and developing an online, collaborative environment facilitating Model-Based Systems Engineering and Concurrent Engineering. He serves on several DoD working groups, including the DoD M&S Coordination Office, Navy M&S Forums, LVC Working Groups, and the NDIA Modeling Subcommittee.

Mr. Shuttleworth has a Bachelor's in Aerospace Engineering from Auburn University and a Master's of Engineering in Mechanical and Aerospace Engineering from University of Virginia. He is also pursuing a PhD in M&S at Old Dominion University and has completed his required course work. Mr. Shuttleworth's research interests are virtual environments, model composability, simulation interoperability, agent-based modeling, and artificial intelligence.



Courtesy Porsche, Epic Games and NVIDIA

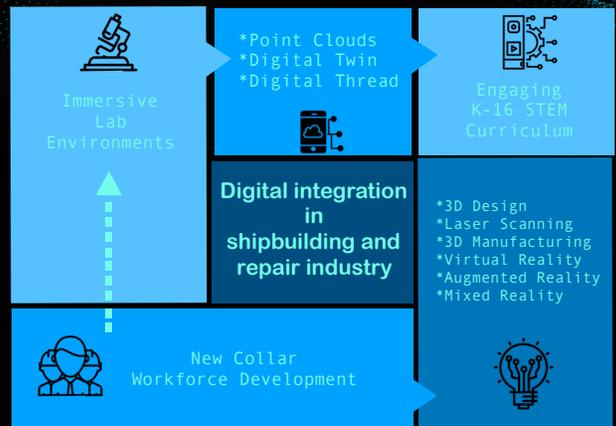
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Visit Epic Games at Booth #7

unrealengine.com

Innovation through Integration

DIGITAL SHIPBUILDING™



SENIOR LEADERSHIP PANEL BIOGRAPHIES

Wednesday, April 24 | 0815 – 1000 | Granby Ballroom DE



RADM JAMES A. ROBB, USN (RET.)

President
National Training and Simulation Association

Following graduation from Rensselaer Polytechnic Institute, designation as a Naval Aviator, and training in the F-14 Tomcat, Admiral Robb deployed nine times across the globe accumulating over 5,000 hours and 1,000 carrier landings. Following a tour flying Russian fighters in the Nevada desert, he commanded Fighter Squadron Fifty One, Carrier Air Wing Nine, the Navy Fighter Weapons School (TOPGUN), and Carrier Strike Group Seven. As a Flag Officer he managed all Naval Aviation Programs (N980) and was the Director of Navy Readiness (N43). Following 9/11, he joined USCENTCOM as the Director of Plans (J5) deploying to the Middle East in support of combat operations.

Retiring in 2006, he built a successful small consulting business before joining the National Training and Simulation Association as President in June 2012.



MR. BOB ARMSTRONG

Executive Director
Eastern Virginia Medical School (EVMS)

Bob Armstrong is Executive Director of the Sentara Center for Simulation and Immersive Learning at Eastern Virginia Medical School in Norfolk, Virginia. Bob is also the Program Director for the National Center for Collaboration in Medical Modeling and Simulation, as well as Director of Corporate Relations at the Medical School. Bob is currently the President Elect of the Society for Simulation in Healthcare. He also teaches in the Biotechnology and Management Program at Christopher Newport University in Newport News, Virginia. Bob is a graduate of the U.S. Naval Academy and Naval Postgraduate School. Bob retired from the U.S. Marine Corps as a Lieutenant Colonel in 2005 after a twenty-year career.



DR. ROGER BARGA

General Manager and Director of Development
Amazon Web Services

Roger Barga is general manager and director of development at Amazon Web Services, where he is responsible for Robotics and Autonomous Services. Roger is also an affiliate professor at the University of Washington, where he is a lecturer in the Data Science and Machine Learning programs. Roger holds a PhD in computer science, has been granted over 30 patents, published over 100 peer-reviewed technical papers and book chapters, and has authored a book on predictive analytics.



DR. MARTY IRVINE

Technical Operations Manager
Combat Direction Systems Activity - Dam Neck

In June 2014, Dr. Marty Irvine was selected as the Head of the Readiness & Training Systems Department of Naval Surface Warfare Center, Dahlgren Division, located at Combat Direction Systems Activity, Dam Neck in Virginia Beach, Va. Dr. Irvine leads a \$555M organization of more than 580 personnel supporting U.S. Navy combat systems fielding & sustainment, integrated training systems development and sustainment, platform and systems cybersecurity, and systems safety engineering. Prior to this assignment, Dr. Irvine held two ONR Science Advisor positions, most recently to the Commander Submarine Forces and before that to Commander of Navy Expeditionary Combat Command. In these roles, his efforts focused on finding science and technology solutions to undersea and expeditionary warfighter needs including underwater communications, advanced torpedo technologies, maritime unmanned systems, advanced diving technologies, mine warfare and special operations capabilities.

SENIOR LEADERSHIP PANEL BIOGRAPHIES

Wednesday, April 24 | 0815 – 1000 | Granby Ballroom DE



DR. JAMES MORELAND

OUSD A&S Director
Maritime Interdiction

Dr. James D. Moreland, Jr. is the Deputy Assistant Secretary of Defense (Tactical Warfare Systems) and Director (Naval Warfare) within the Office of the Under Secretary of Defense for Acquisition and Sustainment, and has 30 years of experience in multiple engineering disciplines dealing with the design, development, integration, and acquisition of complex joint warfare systems and Major Defense Acquisition Programs. He is an Adjunct Professor and Research Advisor at multiple universities in Engineering. Dr. Moreland earned a Ph.D. in Systems Engineering from George Washington University; an M.S. in National Resource Strategy from the Industrial College of the Armed Forces; an M.S. in Systems Engineering from Virginia Tech; and a B.S. in Mechanical Engineering from the University of Maryland. He is Defense Acquisition Workforce Improvement Act (DAWIA) Level III certified in Systems Planning, Research, Development, and Engineering (SPRDE) and Program Management (PM). Dr. Moreland has received numerous engineering awards to include the Navy Superior Civilian Service Award, and the Navy Distinguished Civilian Service Award as well as multiple best technical paper awards from the American Society of Naval Engineers and the International Council on Systems Engineering.



MR. SANJAY SARDAR

Vice President of Operations, Solutions and Technology Group
SAIC

Sanjay Sardar is Vice President of Modernization and Digital Transformation for SAIC with responsibility overseeing and managing the the strategy of delivering IT modernization solutions and capabilities to our customers.

Sanjay joined SAIC in 2015 as vice president for Advanced Analytics and Simulation where he successfully led the development and implementation of the strategy to manage business and operations related to advanced analytics, big data engineering, information management and knowledge management.

Prior to joining SAIC, Sanjay was the Chief Information Officer of the Federal Energy Regulatory Commission, where he had responsibility for oversight of the strategic management of their IT portfolio.



MR. PEKKA SIVONEN

Executive Director, Digital Transformation of Finnish Industries Ecosystems
Business Finland

BEEN THERE, DONE THAT: Has raised second to most private equity funding in Finland, 38 million Euros in two rounds. 3+35 million.

RECOGNITION: Has been selected as the Entrepreneur Of The Year in Services in Finland by Ernst &Young in years 2004, 2005 and 2006

RESPONSIBLE VISIONARY: Chair of Finland 2030 Future Committee for Corporate renewal. Chair of national strategy and roadmap on Digital Platform Economy. Member of national AI-workgroup. Vice-Member of High Level Advisory Group on Artificial Intelligence to the European Commission.

FROM ZERO TO HERO: Founder of Digia, a publicly NASDAQ OMX -listed mobile sw-company. Took the company from 1 person to 1.600 persons. Has 20 years experience in mobile software and 35 years as entrepreneur.

CREATOR: Previously Executive in Residence position at Aalto University Center for Entrepreneurship as the Head of AppCampus, a three year global acceleration program funded by Microsoft and Nokia, then heading health-tech startup accelerator VERTICAL in collaboration with Samsung and Sonera. Co-Founder of HealthSPA –ecosystem and IndustryHack, a open innovation accelerator of Industrial Internet.

After joining Finnish Innovation Funding Agency Tekes in Feb 2016 responsible for the digitalisation strategy and related programs, 5G, Industrial Internet, Artificial Intelligence, Platform Economy and Smart Mobility programs. Starting from June 2018, Executive Director of BUSINESS FINLAND, responsible for the Digital Transformation of Finnish Industries.

PASSION FOR LIFE: Pekka's passion is mentoring and coaching new and established start-ups on business-plans, clients, financing and go-to-market. He also loves cooking, fly-fishing and downhill skiing.



MR. MARCO ESTRADA | CONFERENCE CHAIR **NTSA** Corporate Member

Integrated Digital Shipbuilding, Change Management and Communications
Newport News Shipbuilding

Marco Estrada leads development and implementation of change management initiatives in support of the Integrated Digital Shipbuilding Program at Newport News Shipbuilding (NNS), a division of Huntington Ingalls Industries. Previously he led DOD Modeling and Simulation Product Management efforts and responsible for defining strategy for the development of simulation-based decision support tools. In addition, his responsibilities included modeling and simulation efforts for the USS Gerald R. Ford (CVN 78). He managed the Virtual Carrier (VCVN), which provides a federation of models for assessing the SGR performance of CVN 78 in support of Developmental and Operational Testing (DT/OT) efforts, including Initial Operational Test and Evaluation (IOT&E) of CVN 78.

Mr. Estrada has a degree in Industrial Technology from the Dr. Imrich Fischmann Institute, a career studies certification in Modeling and Simulation from Tidewater Community College and a Project Management Professional Certification from Old Dominion University. Since joining the company, Mr. Estrada has managed various projects of Modeling and Simulation, including software development and analysis.

Mr. Estrada is a 22-year U.S. Navy Veteran. He is a recognized Aviation-Ship Integration expert. In his previous role as a carrier aviation Subject Matter Expert (SME), he led many aviation-ship interface projects at NNS.



MR. DAVID JONES | DEPUTY CONFERENCE CHAIR

President
Quantified Design Solutions

David Jones leads cutting edge technology integration across commercial and government research and development efforts. As a founder and President of Quantified Design Solutions, he leads the development and integration of technology to support a variety of domains. He has served as a Principal Investigator for Office of Naval Research, Army, and Office of the Secretary of Defense efforts focused on the development of adaptive virtual, mixed reality, and constructive training platforms. David's work focuses on the application of modeling and simulation to support the measurement and modeling of human states and optimization of systems based on them. Whether developing adaptive immersive training systems, game-based training, or real-time support systems, the goal is to quantify what the user needs and provide the right support at the right time. Over the past 14 years he has applied this approach to lead advanced research efforts for the DoD, commercial clients, and universities and has presented his work at international conferences. He holds a Master of Science Degree in Industrial Engineering from the University of Central Florida.



MR. NICK DRUCKER | PROGRAM CHAIR **NTSA** Corporate Member

Manager of Data Analytics and Advanced Technology
Newport News Shipbuilding

Nick Drucker is the Manager of Data Analytics and Advanced Technology at Newport News Shipbuilding. In this role Mr. Drucker leads teams of data scientists, data engineers, technology architects, agile coaches and UX developers. These teams are responsible for delivering products and services as well as the long term technology strategy for NNS' analytics, IoT, Cloud, and UX capabilities. Prior to taking on this role Mr. Drucker served as a Product Manager, identifying new application areas for NNS M&S capabilities in the federal energy market space and providing strategic guidance to NNS product teams. Previously Mr. Drucker served as a Modeling and Simulation Analyst with NNS, leading project teams during the creation and utilization of modeling and simulation applications for multiple shipyard operations. Before joining NNS Mr. Drucker held multiple leadership roles for a small modeling and simulation company in Portsmouth, VA. Mr. Drucker possesses a Master's Degree from Old Dominion University in International Studies with a concentration and certification in Modeling and Simulation as well as a Bachelor's Degree from Christopher Newport University in Political Science with a minor in Psychology.

CONFERENCE LEADERSHIP BIOGRAPHIES



MS. STEFANI WERNER | DEPUTY PROGRAM CHAIR **NTSA** Corporate Member

Software Engineer
Newport News Shipbuilding

Stefani Werner is a Software Engineer in Newport News Shipbuilding's (NNS) Dogfish Labs (DFL). In this role Ms. Werner is responsible for creating proof of concept solutions using emerging technologies to demonstrate their value in solving complex NNS problems. Prior to joining DFL Ms. Werner developed and implemented change management initiatives in support of the Integrated Digital Shipbuilding Program. Previously she worked as a Modeling and Simulation Engineer, developing several simulations for modeling logistics and nuclear operations for the Department of Defense. She has also served as technical lead and senior software developer on multiple nuclear modeling and simulation projects in support of the Department of Energy. Ms. Werner received degrees from the College of William and Mary including a Bachelor of Science in Mathematics and Computer Science and a Master of Science in Computational Operations Research.

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Analytics and Decision-Making



MR. MALIK SAUNDERS | CHAIR **NTSA** Corporate Member

Data Scientist

Booz Allen Hamilton

Malik Saunders is an analytics professional with industry experience in machine learning, discrete event simulation, and mathematical optimization. Mr. Saunders currently serves as both a Data Scientist at Booz Allen Hamilton, and an Adjunct Instructor within the Computer Information Systems program at ECPI University. At Booz Allen he builds predictive and prescriptive models for public sector clients primarily within the Department of Defense. As a native of the Hampton Roads area, a higher education advocate, and an analytics enthusiast, Mr. Saunders is excited to serve on the program committee for the ModSim World Conference for the 2nd straight year. Mr. Saunders possesses a Master of Science in Computational Operations Research from the College of William & Mary and a Bachelor of Science in Engineering from Princeton University in Operations Research & Financial Engineering.



MR. KENYTH CAMPBELL | DEPUTY CHAIR

Supply Chain and Data Analyst

Ferguson Enterprises, Inc.

Kenyth Campbell is a Supply Chain and Data Analyst at Ferguson Enterprises. In this role Mr. Campbell is responsible for designing and generating monthly statistical forecast reports. His role also includes executing and supporting projects or initiatives related to Demand & Inventory Planning, conducting current and future forecasting analysis, ensuring forecasting processes and methods are followed, and establishing and utilizing best methods (statistical models and software tools) in creating forecasts and respective inventory targets. Before joining Ferguson Enterprises Mr. Campbell served as a Modeling and Simulation Analyst with Newport News Shipbuilding, leading project teams during the creation and utilization of modeling and simulation applications for multiple shipyard operations. Mr. Campbell possesses a Master's Degree from Old Dominion University in International Studies with a concentration and certification in Modeling and Simulation as well as a Bachelor's Degree from Christopher Newport University in Political Science.

Cross Reality



MS. CHRISTINA PADRON | CHAIR **NTSA** Corporate Member

Deputy Division Head for XR

Design Interactive, Inc.

Christina Padron is the Deputy Division Head for XR at Design Interactive, and has 10 years of experience in the design, development and evaluation of virtual assessment and training tools for the Office of Naval Research, the Army Research Laboratory, the Air Force Research Laboratory, and the Defense Health Program. Her work focuses on the design, development, and usability of AR/VR/MR training and job aid solutions, specifically ensuring that the solutions are optimized for their specific users, tasks, and context of use. She is currently leading multiple efforts in which AR/VR/MR training systems are being designed and developed, including a mixed reality training system to train collective tasks in an M1 Abrams tank, an AR system that trains tactical combat casualty care tasks, and another AR system that provides training and on-the-job support for ship-based maintenance on the CVN-78. She is also leading an effort to optimize an AR application for the Air Force that supports content creation, sharing, and consumption for aviation maintenance training. She holds a Master's degree from Penn State University in Industrial Engineering with a Human Factors focus, and a Bachelor's degree from Purdue University in Industrial Engineering.



MS. CLAIRE HUGHES | DEPUTY CHAIR **NTSA** Corporate Member

Research Associate

Design Interactive, Inc.

Claire Hughes is a Research Associate in the eXtended Reality Division at Design Interactive. Her experience includes focus on emerging technology delivery to diverse stakeholders, including the Office of Naval Research, and the US Army RDECOM Simulation and Training Technology Center. Her current work is centered around the design and delivery of XR training technologies across the Department of Defense, with a focus on driving user-centered design for scalable adoption of AR/VR/MR training and job aid solutions. These projects include two SBIR Phase II efforts, one for the Office of Naval Research providing on-the-job support for ship-based maintenance on the CVN-78, and one for the US Army RDECOM providing an AR based training solution for the M1A2 Abrams Tank. She holds a Master of Science in Human Factors and Systems Engineering from Embry-Riddle Aeronautical University and a Bachelor of Science in Mathematics from Hillsdale College.

TRACK CHAIR BIOGRAPHIES

Science and Engineering



DR. ANDY COLLINS | CO-CHAIR **NTSA** Corporate Member

Assistant Professor
Old Dominion University

Dr. Andy Collins is an assistant professor at Old Dominion University in the Department of Engineering Management and Systems Engineering. He has a Ph.D. in Operations Research from the University of Southampton, and his undergraduate degree in Mathematics was from the University of Oxford. Operations research is the study and practice of “giving analytical support to decision-makers.” Dr. Collins has analyzed a wide spectrum of problems in domains that include airline pricing, bureaucracy costs, commercial organizational structures, criminal gang formation, critical infrastructures, farming decision-support, key performance indicator selection, military insurgencies, medical school scheduling, pedestrian evacuation of family groups, refugee movement, revenue management, strategic group formation, tolling mechanisms, terrorism risk, traffic incident modeling, visual rhetoric in simulation. He has published over 70 peer-review articles in these domains. His projects have been funded to the amount of approximately \$3 million. Dr. Collins’ passion is the development and application of Agent-based modeling and simulation (ABMS), and he has developed several research simulations including an award-winning investigation into the foreclosure contagion that incorporated social networks. His website and full resume are at www.drandrewjcollins.com.



DR. JIM LEATHRUM | CO-CHAIR **NTSA** Corporate Member

Associate Professor
Old Dominion University

James Leathrum is an Associate Professor in the Department of Modeling, Simulation and Visualization Engineering at Old Dominion University. He earned the Ph.D. in Electrical Engineering from Duke University. His research interests include simulation software design, distributed simulation, simulation-based test and evaluation, and simulation education.



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Training and Education



DR. JULIAN ABICH, IV | CHAIR

Senior Human Factors Engineer
Quantum Improvements Consulting

Julian is a Senior Human Factors Engineer at Quantum Improvements Consulting. Julian holds a Ph.D. in Modeling and Simulation with a specialization in Human Factors, a B.S. in Psychology, and two certificates in Design for Usability and Instructional Design for Simulations from the University of Central Florida. He has over 11 years of experience applying human factors & ergonomics (HF/E) principles, modeling & simulation (M&S) approaches, and instructional design methodology to the assessment, prediction, and improvement of human performance. This work spans across usability & user experience, human-computer interaction, human-robot interaction, human systems integration, and training. His past work concentrated on investigating the role subjective, objective, and physiological measures play in assessing workload and stress in complex environments to ultimately build a closed-loop system, such as one involving a human and robot team or adaptive trainers. Taking a user-centered approach, his recent work focuses on the application of HF/E and M&S to assess the usability and effectiveness of training systems. This work expands to support the design of these systems for various emerging technological platforms, such as augmented reality, virtual reality, and mobile devices. Julian also advocates for Science, Technology, Engineering, Arts, and Mathematics (STEAM) outreach efforts by encouraging public support and fostering posterity's interest within these domains. He has a personal interest in writing and performing music, world traveling, and various extreme sports, recently progressing his certification as a B-License skydiver.



MS. NINA ROTHSTEIN | DEPUTY CHAIR

Ph.D. Student, Applied Cognitive & Behavioral Sciences
Drexel University

Nina Rothstein earned a M.S. from the University of Central Florida in Modeling and Simulation and a certificate in Instructional Design for Simulations. She is currently a Ph.D. student at Drexel University in the Applied Cognitive & Behavioral Sciences program. Nina's research has encompassed evaluating aspects of physical fidelity for medical simulation, evaluating decision-making trainers for strategic and tactical warfare, and the appropriate features of partial task trainers along with variation for performance assessment for novices and experts. Prior to pursuing her PhD, Nina worked for the VA as a researcher at the SimLearn Center, working to establish medical simulation research protocols and bridge the gaps between instructional assessments, simulator capabilities, and learning objectives for train-the-trainer scenarios. Presently, Nina is working to develop methods to measure the impact of emotion on performance in ecologically valid settings.

Special Events



MS. KERRI CHIK | CHAIR

Senior Solutions Consultant/Research Scientist
TiER1 Performance Solutions

Ms. Chik is a Research Scientist and Senior Solutions Consultant at TiER1 Performance Solutions. She specializes in areas of leadership and team development, performance measurement, data analysis, and instructional design. She has applied this expertise to the optimization of training programs and the assessment of human performance. Ms. Chik has also been involved in developing performance measures, conducting training content analyses, identifying training gaps, and evaluating the effectiveness of training for various military and commercial organizations. In addition, her recent work includes identifying and creating critical thinking skills assessment for the Maneuver Captain's Career Course at Fort Benning, building a knowledge elicitation tool to help facilitate agent development, and identifying Garrison leadership competencies. Ms. Chik has also led international organizations with executive team analysis, workshop creation, facilitation, and leadership and team development. Ms. Chik holds a M.A. in Industrial and Organizational Psychology from East Carolina University and a B.S. in Psychology and Sociology from James Madison University. She is a member of the Society for Industrial and Organizational Psychology, the American Psychological Association, the Human Capital Institute, and the Association for Talent Development. She also holds an adjunct professor position at North Carolina Wesleyan College, serves on the training subcommittee for The Interservice/Industry Training, Simulation and Education Conference, and is a member for the SIOP Education and Training Subcommittee.

Defense and Homeland Security – “THE DISRUPTION OF CONVENTIONS IN DEFENSE AND HOMELAND SECURITY BY MODELING AND SIMULATION”



MR. JOE BRICIO | CHAIR

International Cooperative Engagement Manager
Navy International Programs Office (NIPO)

Joe Bricio has over 25 years experience in the Systems Engineering, Technical and Engineering Management, Modeling and Simulation, and Naval Coalition Interoperability obtained from work in industry, academia and government. Currently assigned as an International Cooperative Engagement Manager with Navy International Programs Office (NIPO). He is responsible for Resource Planning in partnership with ONR Global for Cooperative Architecture, and Technology development for international Research, Development, Test and Evaluation (RDT&E) cooperative engagements and opportunity identification with Naval program offices. His responsibilities encompass global technology market research and strategic planning necessary for identification of viable, feasible, and suitable international RDT&E cooperative opportunities.

From 2012 to 2014 Exchange Scientist and Engineering Program to Defence Science and Technology Organisation (DSTO), in Sydney Australia. Contributed to the definition of Royal Australian Navy's Combat System Engineering and Interoperability Framework concept. Additional duties includes System Engineering and Modeling and Simulation expertise to operational test and evaluation activities for HMAS Canberra.

Industry Experience: Sr. Program Manager at CAE Professional Services, Project Scientist at Virginia Modeling and Analysis Center (VMASC), and Modeling and Simulation Engineer with Old Dominion Research Foundation at the Center for Advanced Engineering Environments at NASA Langley. In these positions Joe contributed with development of new approaches for 3 dimensional geospatial database development for training and system performance analyses, and technologies for distributed learning. Joe also had responsibilities of business development including development and execution of business capture campaigns within aerospace and defense markets.



LCDR CHRIS DAVIDSON

Lieutenant Commander, RAN
Naval Surface Warfare Center Dahlgren Division - Dam Neck Activity

Lieutenant Commander (LCDR) Chris Davidson is serving in a personnel exchange posting with the US Navy in the Naval Surface Warfare Center Dahlgren Division - Dam Neck Activity (NSWCDD DNA). He worked as a Strike Force Interoperability Officer, and is now involved in the development of several practical AI enabled applications for the USN using the Open Cognitive Computing Framework (OCCF).

During his 22-year naval career, LCDR Davidson has completed several operational deployments including two to the Middle East Area of Operations. He has served in numerous leadership, engineering and acquisition positions ashore, including: ANZAC Frigate Project; Laser Safety Authority; Acoustic and Optronic Systems Engineer; Patrol Boat Tender Evaluation Group; In-Service Trials Officer; Naval and Shore Communications Sustainment Manager; and Senior Instructor for Combat Systems Courses.

In 2014, LCDR Davidson was endorsed as a 'charge qualified' Surface Combatant Engineer Officer in HMAS DARWIN (FFG 04) where he was the senior engineer and head of the Weapons Electrical Engineering Department.

Lieutenant Commander (LCDR) Chris Davidson is a native of Hobart, Tasmania in Australia. He attended the University of Tasmania, earning a Bachelor of Engineering degree with honors in Computer Systems Engineering in 1998, and graduated from the Royal Australian Naval College in 1999. He also earned a Master's degree in Engineering Science in 2003 from the University of New South Wales.

STEM EVENT ORGANIZER BIOGRAPHY



MS. SHEILA FLANAGAN **NTSA** Corporate Member

Director of Financial Operations

Virginia Modeling, Analysis & Simulation Center, Old Dominion University

Mrs. Sheila Flanagan is the Director of Financial Operations of the Virginia Modeling, Analysis and Simulation Center. She holds a Bachelors of Science in Organizational Management and Human Resources Development from Bluefield College and an Associate's in Applied Science in Business Administration from Tidewater Community College.

She joined VMASC in 2001 as a Program Support Technician working specifically with government contracting and project management. Within a few years, she quickly moved through the ranks of Program Manager, Assistant General Manager, Director of Administration and Support, and in 2017 became the Director of Financial Operations. Her areas of expertise encompass human resource management, fiscal management and oversight of the Center's State and Discretionary budgets, travel, purchasing, inventory control, facility oversight and conference services.

Prior to joining VMASC she was a Human Resource Specialist at Tidewater Community College working mainly with faculty contracting and employee leave benefits. Additionally, she was the President of the TCC Classified Association where she interacted routinely with College Administration, Faculty and Staff. Prior to leaving TCC, she was instrumental in institutionalizing the Employee Recognition Program and the New Employee Orientation Program through the Office of Human Resources.

TRAINING AND EDUCATION TRACK FEATURED SPEAKER

Training and Education Featured Speaker



DR. HASAN AYAZ

Associate Professor

Drexel University

Hasan Ayaz, PhD, is an Associate Professor at Drexel University, School of Biomedical Engineering, Science and Health Systems, Philadelphia, PA and in the Department of Psychology at the Drexel University College of Arts and Sciences, a core member of the Cognitive Neuroengineering and Quantitative Experimental Research Collaborative and with affiliations at the University of Pennsylvania and the Children's Hospital of Philadelphia. He received his BSc. in Electrical and Electronics

Engineering at Boğaziçi University, Istanbul, Turkey with high honors and MSc. and PhD degrees from Drexel University where he developed enabling software for functional Near Infrared Spectroscopy based brain monitoring and FDA approved medical devices. His research interests include neuroengineering in human computer interaction and neuroergonomics, as well as clinical and field applications of optical brain imaging.

Dr. Ayaz's research involves understanding the neural mechanisms related to human perceptual, cognitive, and motor functioning with a focus on real-world contexts, utilizing mobile neuroimaging, and deploying neuroengineering approaches for neuroergonomics applications. His research aims to design, develop, and utilize (i.e. to measure->elucidate->enable) next generation brain imaging for neuroergonomic applications over a broad spectrum including aerospace to healthcare. His research has been funded by federal agencies, corporate partners and foundations, and with 200+ publications in international journals and conferences.

Dr. Ayaz serves on the editorial board of multiple international journals (PLOS One, Frontiers in Human Neuroscience, Applied Sciences, and Computational Intelligence and Neuroscience). He is also a frequent reviewer on 50+ other journals. He served as the co-chair of the inaugural and second International Neuroergonomics Conferences, as well as chair/co-chair/keynote speaker for various other conferences and symposiums.

SOCIAL MEDIA



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NATIONAL MODELING & SIMULATION COALITION

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.

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NATIONAL TRAINING AND SIMULATION ASSOCIATION

The National Training and Simulation Association (NTSA) is America's premier organization representing the interests of the modeling and simulation community worldwide. As such, it serves as a constant point of contact for government, academia, industry, research organizations and the military to exchange information, share knowledge, align business interests and in general stimulate growth and overall advancement of the industry. NTSA pursues these goals through a series of conference, meetings and exhibitions throughout the year. NTSA produces The Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), which is the world's largest conference and exhibition dedicated to modeling and simulation. While NTSA primarily serves the North American community of practice, many of its members and participants are non-US. NTSA is a key member of the International Training and Simulation Alliance (ITSA), a worldwide group of simulation associations that promotes knowledge and information about training and simulation worldwide.

RADM James A. Robb,
USN (Ret.)
President

Debbie Langelier, CEM
Vice President

Shannon Burch, CEM
Director of Exhibits and
Sponsorships

Carol Dwyer
Associate Director,
Membership Services

Rebecca Epstein
Associate Director,
NTSA Operations

NTSA SCHEDULE OF EVENTS

2019 SIMULATION & TRAINING COMMUNITY FORUM

May 7, 2019
Dayton, OH

ITEC 2019

May 14-16, 2019
Stockholm, Sweden

TRAINING & SIMULATION INDUSTRY SYMPOSIUM (TSIS) 2019

June 12-13, 2019
Orlando, FL

CAPITOL HILL M&S EXPO

July 10, 2019
Washington, DC

IFEST 2019

August 26-28, 2019
Alexandria, VA

INTERSERVICE/INDUSTRY TRAINING, SIMULATION & EDUCATION CONFERENCE (I/ITSEC) 2019

December 2-6, 2019
Orlando, FL

2020 SIMULATION INNOVATION WORKSHOP (SIW)

February 10-14, 2020
Orlando, FL
(Sponsored by SISO / Supported by NTSA)

LEADERSHIP SUMMIT

Date TBD
Location TBD

MODSIM WORLD 2020

May 4-7, 2020
Norfolk, VA

TrainingSystems.org/events



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Corporate Membership Options

Sustaining

- \$5,000 in dues
- First choice of booth space (during I/ITSEC)
- 10% discount on booth space for I/ITSEC (Maximum discount = \$5,000)
- Seat on Executive Committee and Invitation to M&S Awards Dinner
- Additional exposure at I/ITSEC

Regular

- \$1,250 to \$2,500 in dues (depending on # of employees involved in training and/or M&S)
- Second round of booth space selection (in early to mid-February)
- 5% discount on booth space for I/ITSEC (Maximum discount = dues amount paid)

Associate

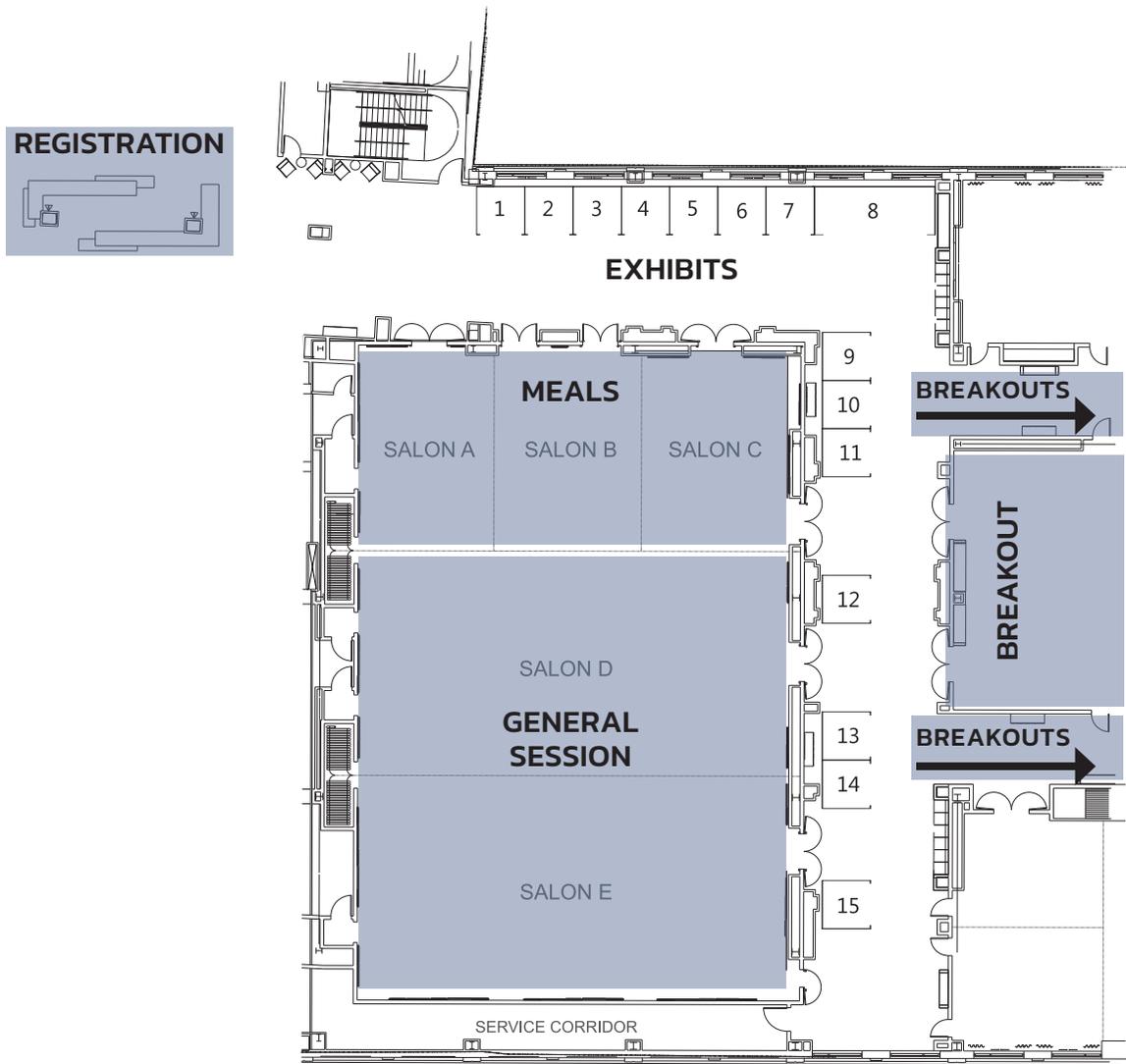
- \$500 in dues; designed for smaller companies
- Third round of booth space selection (in late February)
- No discount on booth space for I/ITSEC

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- Reduced registration fees for all employees for all NTSA & NDIA events
- Member listing with hyperlink on the NTSA website
- NTSA's monthly e-newsletters
- National Defense, NDIA's award-winning magazine

VISIT TRAININGSYSTEMS.ORG/MEMBERSHIP, CONTACT CAROL DWYER AT CDWYER@NDIA.ORG





EXHIBITORS BY COMPANY

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EXHIBITORS

FLEXSIM SOFTWARE PRODUCTS, INC. 1

FlexSim is 3D simulation modeling software for manufacturing and supply chain operations, transforming your existing data into accurate predictions. Our clients are involved in process improvement. They're typically concerned about impending changes in their operations, or they're frustrated with a process that needs to be improved. Our software combines powerful statistical analysis with 3D visualization, allowing you to test "what if" scenarios in a risk-free virtual environment. FlexSim is easy to use, feature-rich, and visually stunning, and our developers are responsive to customer needs. Come visit us to see the latest version of our flagship simulation package, FlexSim 2019, and don't forget to ask about our special offers.

FLIGHTSAFETY INTERNATIONAL 3

NTSA Corporate Member

FlightSafety International is the world's premier aviation training company and supplier of flight simulators, and visual systems. FlightSafety advances aviation safety thru flight simulation and professional training services.

GEORGIA TECH RESEARCH INSTITUTE (GTRI) 6

NTSA Corporate Member

Georgia Tech Research Institute (GTRI) develops advanced technological solutions and large-scale system prototypes to address the most difficult problems in national security, economic development and overall human betterment. GTRI is uniquely positioned within the Georgia Institute of Technology (Georgia Tech), a top research university. Many of our experts are recognized internationally in a vast array of research domains. GTRI's core research areas include complex and agile systems engineering, sensor design and integration, modeling and simulation, information management and cyber security, and defense technology development. GTRI has over 2000 employees and conducts more than \$360 million in sponsored research annually.

ICF 13-14

ICF is a global consulting services company with over 5,000 specialized experts, but we are not your typical consultants. At ICF, business analysts and policy specialists work together with digital strategists, data scientists and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future.

JANUS RESEARCH GROUP 13-14

JANUS enhances the efficiency and performance of organizations by providing innovative and cost effective highly detailed virtual environments and visualization tools for customers Video, Interactive Multimedia Instruction levels I-IV, Serious Game, or Modeling and Simulation needs.

METOVA FEDERAL, LLC (CYBERCENTS) 5

NTSA Corporate Member

Metova Federal, LLC (SDVOSB) provides turn-key cyber operations solutions. Our CyberCENTS division designs/develops our CENTS® cyber range platform solutions. CENTS provides key capabilities for PCTE prototype, and is integrated in the USAF/ANG as VITE and Navy as NCOTS to train their CMFs.

NEWPORT NEWS SHIPBUILDING 8

NTSA Corporate Member

Huntington Ingalls Industries is America's largest military shipbuilding company and a provider of professional services to partners in government and industry. For more than a century, HII's Newport News and Ingalls shipbuilding divisions in Virginia and Mississippi have built more ships in more ship classes than any other U.S. naval shipbuilder. HII's Technical Solutions division provides a wide range of professional services through its Fleet Support, Mission Driven Innovative Solutions, Nuclear and Environmental, and Oil and Gas groups. Headquartered in Newport News, Virginia, HII employs more than 40,000 people operating both domestically and internationally.

ODU MODELING & SIMULATION ENGINEERING 10

NTSA Corporate Member

Old Dominion University is the first in the world to offer a bachelor's degree in M&S Engineering (M&SE). We are fully accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET). Our students are recognized engineers with excellent programming and analysis skills that are highly sought after in the workplace. Our students utilize basic science principles and concepts to create and analyze models of systems in order to improve, optimize, or train with them. M&SE teaches students how to capture an idea in a software model and test it out under different real-world conditions using graphs, animations, or virtual reality to view its behavior and investigate what-if questions that can make the idea better. We teach how these techniques can be applied within a variety of careers in areas such as medical & healthcare, human & autonomous behaviors, cybersecurity, military, transportation, and serious gaming. The result is a computational science and engineering curriculum that teaches the fundamental principles and theoretical foundations of M&S and prepares students to enter the workforce as entry-level engineers instilled with the knowledge of model creating and what-if analytics.

PITCH TECHNOLOGIES 9

NTSA Corporate Member

Pitch Technologies (Pitch) is a leading provider of open standards compliant products, services and solutions for interoperable distributed simulation systems. Our products and solutions are used by some of the largest and most complex system development, integration and test, training exercise and training delivery programs across a global range of sectors including Defense, Aerospace, Air Traffic Control, Security, Transport, Energy, and Medicine. Pitch plays an active role in the Modeling and Simulation community. We are heavily involved in development of open standards like the IEEE 1516-2010 HLA (High Level Architecture) Evolved standard for simulation interoperability. For example, we are currently part of the core technical and management team tasked to develop the next generation of HLA. We are also part of development teams for several HLA Federation Object Models (FOMs) including the RPR FOM version 3, the Space FOM, and the Medical Modeling & Simulation Federation Object Model (MMS FOM). Pitch is a sponsor and active member of the Simulation Interoperability Standards Organization (SISO) and a recurring exhibitor at MODSIM World.

Plas.md 13-14

Plas.md seeks to improving human performance and resilience through the integration of real-time biometric data with advanced immersive simulations. We don't just talk innovation, we ship innovation.

PRAGMATICS INFRASTRUCTURE SOLUTIONS 15

NTSA Corporate Member

Since 2011, Pragmatics has designed, installed and integrated over 4,300 electronic classrooms (of varying complexities), video conferencing (VTC), command conference rooms, auditoriums, mission/battle/simulation rooms, IP TV and closed-circuit television (CCTV) deployments for the US Army, Navy and Air Force. In 2018/19 we introduced "active learning" and "virtual reality" rooms our TRADOC Enterprise Classroom Program for deployment at Fort Lee (VA). We are a turnkey solution provider with over 120 direct OEM dealership to reduce our customers cost while providing the best technology.

QUANTIFIED DESIGN SOLUTIONS 13-14

Quantified Design Solutions designs, develops, and evaluates advanced training solutions for commercial, DoD, and medical clients. They apply learning science research to drive the development of platforms ranging from mobile to augmented and virtual training systems.

UNREAL ENGINE 7

Epic Games' Unreal Engine technology brings high-quality games to PC, console, mobile, AR and VR platforms. Creators also use Unreal for photorealistic visualization, interactive product design, film, virtual production, mixed reality TV broadcast and animated entertainment. Follow @UnrealEngine and download Unreal for free at unrealengine.com.

VARJO TECHNOLOGIES 12

Varjo makes revolutionary VR/XR hardware and software that together are jumpstarting a new era in immersive computing – where real and digital worlds merge seamlessly in human-eye resolution. Our Bionic Display technology allows you to see virtual and augmented content as clearly as you see the analog world around us. Varjo's virtual and mixed reality devices will profoundly change the way professionals work, design and create. When we're done, computers will look nothing like they do right now.

The world's only human-eye resolution headset, Varjo VR-1, is now available at varjo.com.

VIRGINIA SERIOUS GAMES INSTITUTE GEORGE MASON UNIVERSITY 2

VSGI exists to support Mason's Entrepreneurial and Innovation goals by cultivating and supporting Mason-founded startups, rapid prototype development, high-value knowledge job creation, and regional economic development through serious game technology discovery to improve the human condition.

VMASC 11

NTSA Corporate Member

VMASC is an enterprise research center of Old Dominion University (ODU) focusing on advances in modeling and simulation, data analytics, and cybersecurity to solve real world problems. VMASC is leading innovation and analytics through the digital transformation of manufacturing and shipbuilding. The Virginia Digital Shipbuilding Program (VDSP) is housed at VMASC and through partnerships in the industry, academia, and government the program is researching, developing digital shipbuilding curriculum, and establishing STEM/Digital Shipbuilding Labs to upskill the current shipbuilding and repair workforce and equip future workforce for advanced manufacturing jobs regionally, state, and nationwide. An integral part of the VDSP is outreach to regional K-16 school divisions and universities through workshops, STEM expos and curriculum development- which foster problem, based learning/inquiry paradigms. Learners navigate and engage in innovative, industry practices, digital life cycle of ships, utilize efficiency of digitizing benefits for focused solutions and are exposed to various career opportunities. Integrated digital shipbuilding provides a platform for learners of all ages to chart their course for the modern-day workforce.

VT MAK 4

NTSA Corporate Member

VT MAK is a global leader in modeling and simulation software that links, simulates and visualizes virtual worlds in networked synthetic environments. Continuing a tradition that stretches back almost three decades, our tools are used by the world's top organizations for training, experimentation, mission rehearsal, research and development, and virtual prototyping. We empower our customers to build on top of our open standards-based COTS platforms, and assist those customers in creating winning systems.

ABOUT MODSIM WORLD

MODSIM WORLD a unique multi-disciplinary conference for the exchange of modeling and simulation knowledge, research and technology. This event joins theory and practice across industry, government and academia; providing for an open interchange of information, knowledge and technology.

MODSIM WORLD began in 2007 with the creation of the Center for Public and Private Partnership (CP3), a non-profit corporation that drew membership from the M&S industry and community leaders in Hampton Roads, Virginia. In November 2014 the CP3 changed its name to Virginia Modeling and Simulation Partnership (VMSP), by vote of the Board of Directors. VMSP saw the interest and need to share information about the vast amount of M&S based development occurring in the Hampton Roads area, including work based at Joint Forces Hampton Roads, Virginia Modeling, Analysis and Simulation Center (VMASC), Eastern Virginia Medical School (EVMS), NASA Langley Research Center, and many other regional government, academic, and industry organizations. Now sponsored and managed by the National Training and Simulation Association (NTSA), MODSIM has been held annually since.

Specific focus areas of the conference vary from year to year, based upon current events and interest level. The 2019 conference tracks are Analytics & Decision Making, Cross Reality, Science & Engineering, and Training & Education.

MODSIM VISION

MODSIM World will become the premier international conference and exposition for collaboration and transfer of M&S knowledge, new research, development and applied technology across all public and private sectors.

MODSIM MISSION

- To promote the initiation, development and research of M&S among all organizations internationally.
- To share the latest technical expertise, knowledge, applications and capabilities of simulation technology by academia, industry and government.
- To promote cooperation among academia, industry and government, applying M&S technologies to help organizations anticipate and prepare for the future.
- To improve M&S technology to reduce its implementation cost by academia, industry and government.
- To support planning, decision-making and real time operations management with state-of-the-art computer software and development expertise utilizing modeling and simulation.
- To foster the transfer of leading edge simulation technology and knowledge from the military community to the medical, transportation, homeland security and other applicable communities.

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