Be sure to check inside the front cover for your Pocket Guide.
# TABLE OF CONTENTS

## WELCOME & INTRODUCTIONS
- Conference Welcome ........................................ 2
- Keynote Speakers ............................................ 3
- Conference Leadership ...................................... 4
- Interservice Executives ..................................... 5
- Principals & Advisor ........................................ 6

## AGENDA
- Pre-Conference Agenda .................................... 7
- Dress Code ..................................................... 7
- Conference Agenda .......................................... 8
- Orange County Convention Center Diagram ......... 12
- Hyatt Regency Diagram .................................... 13

## SPECIAL EVENTS
- Signature Events ............................................ 15
- Focus Events .................................................. 25
- Communities of Interest ................................... 38
- Program Briefs ............................................... 41
- Industry Days ................................................. 42
- Launch Pad ..................................................... 43
- International Programs .................................... 44

## PROFESSIONAL DEVELOPMENT
- Continuing Education Units/Continuous Learning Points ........................................ 47
- Tutorial Grid .................................................. 48
- Tutorial Synopses & Schedule ......................... 49
- Paper Session Grid .......................................... 62
- Papers/Authors Presentation Schedule ............. 66
- Professional Development Workshops ............... 74

## STEM
- STEM Workforce Initiative ................................ 77
- Future Leaders • Students at I/ITSEC ................. 78
- America’s Teachers at I/ITSEC • Educators (STEMConnect) ............................................. 79
- Serious Games Showcase & Challenge ............... 80
- STEM Pavilion: Project Based Learning ............... 81
- I/ITSEC Scholarships ........................................ 82

## EXHIBITS
- Hall Happenings ............................................. 83
- 2018 Exhibitors ............................................... 87

## COMMITTEES
- Conference Committee • Council of Chairs ........ 91
- Program Subcommittees ................................... 92
- Special Teams .................................................. 94

## CONFERENCE INFORMATION
- Registration Information • Parking • Dress Code .... 97
- Lodging ......................................................... 98
- Getting Around .............................................. 99
- Publications & Media ....................................... 100
- Sponsoring Association .................................... 101
- Safety & Security .......................................... 102
- Golf Tournament ............................................ 103
- 5K Run ......................................................... 104

## I/ITSEC 2019
- I/ITSEC 2019 Save the Date ............................... 105
- Call for Papers and Tutorials ............................ 106
- Serious Games Showcase & Challenge ............... 107
On behalf of the United States Navy and the Marine Corps, this year's Lead Services; our sponsoring organization, the National Training and Simulation Association; the Service Executives and their Principals; and the 200-plus volunteers from the military, government, industry, and academia, it is my distinct honor and great pleasure to welcome you to the 2018 Interservice/Industry Training, Simulation, and Education Conference (I/ITSEC)!

The theme selected for this year’s conference, “Launching Innovation in Learning: Ready, Set, Disrupt,” called on the training, education, and simulation community of practice to bring their latest capabilities and innovations; principally, their disruptive and game-changing technologies which enhance a user’s ability to learn. Our community answered the call with our program and tradeshow floor providing many venues for attendees to explore, discuss, and witness these technological advancements in our industry. This year, we introduced a new venue: Launch Pad. Featured participants were selected through a competitive submittal and review process. The result is a showcase of the most significant, progressive solutions displayed on the show floor for all to experience. At Launch Pad, you will see advancements in AI, AR/VR, education, interoperability, LVC, and performance measurement to name a few.

I/ITSEC 2018 features content-rich professional development and informational activities including tutorials, paper presentations, and workshops in which attendees will receive understanding in the latest learning and simulation trends, practices, and technologies. The volunteer members of our six Subcommittees, Tutorial Board, and Conference Committee have spent this year assembling a great program consisting of 142 technical papers, 26 special events, and 26 tutorials. Look to engage with our future leaders in our many STEM activities, from the Future Leaders Pavilion, Student Tours, and the Serious Games Showcase and Challenge. Interaction with these young leaders will help expose them to their future careers as well as add to your personal engagement with our community. Our Black Swan event, which explores challenging issues and their consequences, will focus on Artificial Intelligence (AI) in a conversation called “AI Run Amok.” Black Swan attendees will observe AI from perspectives which will be sure to test their perception. All Monday tutorials, Friday workshops, and paper sessions are available for continuing education and continuous learning credits. Additional information regarding CEU registration is available on the www.iitsec.org website.

Make time to explore the I/ITSEC exhibit hall, which hosts the largest display of training systems capabilities in the world. Over 500 exhibitors will present leading-edge technology and innovative concepts. This year, we also welcome continued growth in the number of international attendees. With over 1,800 attendees from over 50 countries expected, we can expect an audience with diverse ideas and perspectives. Be sure to take advantage of the many opportunities to network and exchange ideas.

This conference is a reality because of our many volunteers and sponsors. I want to express my sincere thanks and appreciation to them, as their commitment and support ensures I/ITSEC remains the world’s premier professional development event for the training, simulation, and education professional.

I/ITSEC 2018 will enable you to launch and improve your program, your offerings, and yourself. Whether you are an engineer, educator, trainer, system developer, or business developer, I/ITSEC 2018 will fulfill your professional needs. Join us to Launch Innovation in Learning: Ready, Set, Disrupt!

Sincerely,

Bob Kleinhample
Service Keynote

ADMIRAL CHRISTOPHER GRADY is a native of Newport, Rhode Island. He is a graduate of the University of Notre Dame and was commissioned an ensign through the Naval Reserve Officers Training Corps program. Grady is a distinguished graduate of Georgetown University where he earned a Master of Arts in National Security Studies while concurrently participating as a fellow in Foreign Service at the Edmund A. Walsh School of Foreign Service. He is also a distinguished graduate of the National War College earning a Master of Science in National Security Affairs. He assumed command of U.S. Fleet Forces Command/U.S. Naval Forces Northern Command on May 4, 2018. In his most recent assignment, he was the commander, U.S. 6th Fleet and the commander, Naval Striking and Support Forces NATO, while simultaneously serving as the deputy commander, U.S. Naval Forces Europe and U.S. Naval Forces Africa. Additional flag assignments include director of the Maritime Operations Center (N2/3/5/7), Commander, U.S. Pacific Fleet; commander, Carrier Strike Group (CSG) 1/Carl Vinson Carrier Strike Group where he deployed for nearly 10 months to the Western Pacific and the Arabian Gulf conducting combat operations in support of Operation Inherent Resolve; and commander, Naval Surface Force Atlantic. At sea, Grady’s initial tour was aboard USS Moosbrugger (DD 980) as combat information center officer and antisubmarine warfare officer. As a department head, he served as weapons control officer and combat systems officer aboard USS Princeton (CG 59). He was commanding officer of Mine Countermeasures Rotational Crew Echo aboard USS Chief (MCM 14), and deployed to the Arabian Gulf in command of USS Ardent (MCM 12). Grady then commanded USS Cole (DDG 67), deploying as part of NATO’s Standing Naval Forces Mediterranean. As commander, Destroyer Squadron (DESRON) 22, he deployed to the Arabian Gulf as sea combat commander for the Theodore Roosevelt Carrier Strike Group (TRCSG) in support of Operations Enduring Freedom and Iraqi Freedom. Ashore, Grady first served on the staff of the Joint Chiefs of Staff and then as naval aide to the chief of naval operations. He also served on the staff of the chief of naval operations as assistant branch head, Europe and Eurasia Politico-Military Affairs Branch (OPNAV N524). He then served as executive assistant to the Navy’s Chief of Legislative Affairs. Next, he served as the deputy executive secretary of the National Security Council in the White House. He then went on to serve as the executive assistant to the chief of naval operations. His personal awards include the Distinguished Service Medal, Defense Superior Service Medal, Legion of Merit with four gold stars, Meritorious Service Medal with four gold stars, Joint Service Commendation Medal, Navy and Marine Corps Commendation Medal with three gold stars, and the Combat “V”, and Joint Service Achievement Medal. Grady is a joint specialty officer.

Industry Keynote

STAN DEAL is Executive Vice President of The Boeing Company and President and Chief Executive Officer of Boeing Global Services. He is a member of Boeing’s Executive Council. Deal was named to this position in November 2016 when Boeing announced the establishment of Boeing Global Services as a third business unit of the company, bringing together services capabilities that span the defense, space and commercial sectors. Deal oversaw the formal stand up of Global Services and led its transition into a fully-operational business unit on July 1, 2017. Deal is responsible for defining and implementing a new aerospace services development and delivery model for commercial and government customers worldwide focused on four capability areas: supply chain; engineering, modifications and maintenance; digital aviation and analytics; and training and professional services. Resulting customized aftermarket services solutions are offered to customers, regardless of platform manufacturer, while reducing costs and accelerating delivery schedules. Global Services has more than 300 locations worldwide in more than 70 countries. Previously, Deal was Senior Vice President of Commercial Aviation Services, including Boeing subsidiaries Aviall and Jeppesen. In this role, he led a team in providing customer support and services to airlines and leasing companies around the globe. Under his leadership, Commercial Aviation Services generated record performance in 2014 and 2015. Formerly the services division of Boeing Commercial Airplanes (BCA), Commercial Aviation Services is included in the Boeing Global Services portfolio. From 2011 to 2014, Deal was Vice President and General Manager of Supply Chain Management and Operations for BCA. Prior to that, he served as Vice President and General Manager of the BCA Supplier Management organization, where he was responsible for the strategy, contracting, daily management and development of the supply chain. Deal has held a variety of leadership roles in BCA Sales and Marketing, including Vice President of Asia Pacific Sales and Vice President of BCA Sales and Marketing Operations. He was also Vice President of Global Network Sales, during which time he helped to launch Connextion by Boeing. After joining Boeing in 1986, Deal held various leadership positions, including leading integrated product teams for propulsion systems and structures on the 717 program. He was also program manager for the MD-11 Japan Airlines program. Deal serves on the board of directors for the Smithsonian’s National Air and Space Museum, supporting its mission to commemorate the past and educate and inspire an appreciation for the importance of flight to humanity. Deal holds a Bachelor of Science degree in aerospace engineering from the University of Illinois and a Master of Business Administration from Pepperdine University.
Conference Chairs

ELIZABETH “BETH” BIDDLE, Ph.D., is a Boeing Technical Fellow in Human Performance Engineering and has 14 years’ service with The Boeing Company. She currently provides technical leadership in the Boeing Research & Technology (BR&T) Advanced Learning organization to support the development of innovative training capabilities. Other Boeing positions supported were in the Boeing Training Systems & Government Services business unit and include Live Training Lead (Future Combat Systems/Brigade Combat Team Modernization), Capture Team Leader, Manager for Live-Virtual-Constructive Technology Research & Development, and Principal Investigator for several advanced instructional and training internally and externally funded projects. Beth was awarded with a Ph.D. in Industrial Engineering and Management Systems, with an emphasis in Interactive Training Simulations, from the University of Central Florida in 2001. She holds a M.S. in Counseling and Human Development from Troy State University and a B.A. in Psychology from Florida State University. She was awarded the Modeling & Simulation Award in Training by the Defense Modeling & Simulation Office (DMSO) in 2001 and nominated as a Charter Member by the National Training and Simulation Association (NTSA) to receive the Certified Modeling & Simulation Professional (CMSP) certification in 2002. She currently serves on the Board of Directors for the Women in Defense Central Florida Chapter as Executive Vice President. Beth was a recipient of the I/ITSEC Scholarship in 1999.

ROBERT KLEINHAMPLE is SAIC’s Solutions Vice President for Training within the Training Submarket Segment. Bob is responsible for setting the strategic vision and leadership of SAIC’s training solutions and go to market strategies. In 12 years with SAIC, Bob has worked as a Program Manager and Service Line Director. He has led programs ranging from test and evaluation, experimentation, simulation, analysis and training. His significant initiatives include technical leadership in the use of distributed live, virtual, constructive and gaming simulation environments, and game, simulations and instructional systems development. Prior to joining SAIC, Bob served in the United States Army in the Field Artillery and retired in 2006 at the rank of Lieutenant Colonel. His functional assignments were in Operations Research and Simulation Operations. Bob holds a bachelor’s degree in engineering management from the United States Military Academy and a master’s degree in operations research from Old Dominion University. Bob has served as an active member on I/ITSEC Subcommittees and Conference Committee for 11 years.

Conference Sponsor

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.

Herbert J. “Hawk” Carlisle became president and chief executive officer of the National Defense Industrial Association (NDIA) June 15, 2017. Gen. Carlisle came to NDIA after a 39-year career in the Air Force, from which he retired as a four-star general in March 2017. His last assignment was as commander, Air Combat Command at Langley Air Force Base in Virginia. Before that, Gen. Carlisle was the commander of Pacific Air Forces; the air component commander for U.S. Pacific Command; and executive director of Pacific Air Combat Operations staff, Joint Base Pearl Harbor in Hawaii. Gen. Carlisle has served in various operational and staff assignments throughout the Air Force and commanded a fighter squadron, an operations group, two wings and a Numbered Air Force. He was a joint service officer and served as Chief of Air Operations, U.S. Central Command Forward in Riyadh, Saudi Arabia. During that time, he participated in Operation Restore Hope in Somalia.
Navy Service Executive (Lead Service)
CAPT Timothy M. Hill, USN, is the Commanding Officer, Naval Air Warfare Center Training Systems Division (NAWCTSD), and Naval Support Activity (NSA), Orlando. 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, techni-
cians, logisticians, contracting specialists, and support personnel. Captain Hill was commissioned with the U.S. Naval Academy Class of 1992 after earning a Bachelor of Science degree in Systems Engineering. As a Naval Flight 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.

Marine Corps Service Executive (Lead Service)
COL LOUI LARA is the Marine Corps Systems Command Program Manager, Training Systems (PM TRASYSS). He is responsible for managing a workforce of over 150 personnel in the acquisition and sustainment of training systems used throughout the Marine Corps. Col Lara graduated from Embry Riddle Aeronautical University in 1993 with a B.S. in Aviation Maintenance Management. He also holds M.S. Degrees in Acquisition and Contract Management from the Naval Post-Graduate School and Military Studies from the Marine Corps University. He earned a commission in 1995 and subsequently became a Logistics Officer and a Contracting Officer. In 1999, he deployed on a Western Pacific deployment as a member of the 11th Marine Expeditionary Unit. Additionally, in support of the Global War on Terror, he deployed three times to Kuwait/Iraq, twice as a Contingency Contracting Officer and once as the Regimental Combat Team – 5 Logistics Officer in support of combat operations in Fallujah. Prior to his selection as Program Manager Training Systems, Col Lara served as the Deputy Program Manager for Training Systems and completed a fellowship as a Secretary of Defense Executive Fellow at Georgia Power Company. Other key Acquisition Officer assignments include, Acquisition Command as Program Manager for Anti-Armor Systems, Deputy Director for the Amphibious Combat Vehicle (ACV), Assistant-Program Manager Logistics for the Expeditionary Fighting Vehicle (EFV), Team Leader for the Body Armor and Load Bearing team, and Director of Contracts at Marine Corps Support Facility, Blount Island Command. His personal decorations include the Bronze Star, the Meritorious Service Medal with three gold stars in lieu of fourth award, the Navy and Marine Corps Commendation Medal and the Navy and Marine Corps Achievement Medal. Additionally, he is a recipient of the Combat Action Ribbon.

Air Force Service Executive
Col PHILIP E. CARPENTER, USAF, is the Senior Material Leader, Simulators Program Office. He leads a 430-member team, executes a $5.8B portfolio, and is responsible for developing and maintaining 50+ training systems for ACC, AMC, AETC, AFSPC, AFPGS, and multiple FMS partner nations. He enlisted in the Air Force in 1986, and served as an avionics technician on the SR-71, and a communications systems operator on EC-130 and EC-135 aircraft. He was commissioned in 1995 through Air Force Officer Training School, and has held a variety of program management positions in space, intelligence, command and control, cyber, and weapons. As a company grade officer, he served as a C-5 and KC-10 aircraft maintenance officer. He deployed in support of Operation Iraqi Freedom and was named the 60th Air Mobility Wing Maintenance Support Officer of the Year. Col Carpenter served as the Chief of Acquisition Officer Assignments at the Air Force Personnel Center and completed a joint tour with U.S. Forces, Japan. During this assignment, he served as an Operations Officer, Combat Ops and Exercises; Chief, Integrated Air and Missile Defense; and Executive Officer to the Commander. He also participated in Operation Tomodachi following the devastating 9.0 earthquake and tsunami. Col Carpenter was the Materiel Leader for AIM-120 development, and most recently, he was the Chief, F-16 Foreign Military Sales, where he managed a $23B portfolio to produce and modify over 750 aircraft for 10 nations. Col Carpenter holds an APDP Level III in Program Management and is a Level II Certified Space Professional.
Service Principals

**Diana Teel**  
**Navy (Lead Service)**  
Industry Outreach Program Manager  
Naval Air Warfare Center Training Systems Division (NAWCTSD)

**Martin Bushika**  
**Marine Corps (Lead Service)**  
Director, Program Integration  
Marine Corps Systems Command (MARCORSYSCOM)  
Program Manager, Training Systems (PM TRASYS)

**Tony DalSasso**  
**Air Force**  
Chief Engineer  
Simulators Program Office, Air Force Materiel Command (AFMC)

**Jesse Campos**  
**Army**  
PM ITTS Chief Engineer  
U.S. Army Program Executive Office, Simulation, Training and Instrumentation (PEO STRI)

**OSD Principal**

**Shep Barge, Ph.D.**  
Director  
Joint Assessment and Enabling Capability, Office of the Deputy Assistant Secretary of Defense for Force Education and Training

**Education and Training Advisor**

**VADM Al Harms, USN (Ret.)**  
President  
Lake Highland Preparatory School
Agenda
### Dress Code

<table>
<thead>
<tr>
<th>BRANCH</th>
<th>CONFERENCE AND GENERAL SESSIONS</th>
<th>BANQUET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army</td>
<td>ACUs or Duty Uniform</td>
<td>Army Blue (Army Evening Mess Optional)</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>Service “C”</td>
<td>Evening Dress (Dress Blue “B” or Service “A” Optional)</td>
</tr>
<tr>
<td>Navy</td>
<td>Service Khaki, Navy Service Uniform</td>
<td>Dinner Dress White (Service Dress White Optional)</td>
</tr>
<tr>
<td>Air Force</td>
<td>Short or Long Service Blues</td>
<td>Service Dress Blue with Tie and Jacket (Mess Dress Optional)</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>Tropical Blue Long</td>
<td>Dinner Dress White (Service Dress White Optional)</td>
</tr>
<tr>
<td>Civilian</td>
<td>Business Attire</td>
<td>Black Tie (Optional) or International Traditional Costume</td>
</tr>
</tbody>
</table>
### CONFERENCE AGENDA

#### MONDAY, 26 NOVEMBER 2018

<table>
<thead>
<tr>
<th>TIME</th>
<th>LOCATION</th>
<th>TIME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0730</td>
<td>Conference and Exhibit Registration Open</td>
<td>0730</td>
<td>Satellite Registration Open</td>
</tr>
<tr>
<td>0730</td>
<td>South Concourse, S220CDE</td>
<td>0730</td>
<td>Hyatt Regency Main Lobby</td>
</tr>
<tr>
<td><strong>0830 - 1000</strong></td>
<td><strong>TUTORIALS</strong> (Synopses begin on page 49)</td>
<td><strong>1030 - 1200</strong></td>
<td><strong>SIGNATURE EVENT 1:</strong> Congressional Modeling and Simulation Event (page 15)</td>
</tr>
<tr>
<td></td>
<td>2018 Update - Trade Compliance Challenges in Training and Simulation Continue (1848)</td>
<td></td>
<td>Room S330BCD</td>
</tr>
<tr>
<td></td>
<td>Room S320A</td>
<td>1245 - 1415</td>
<td>TUTORIALS (Synopses begin on page 53)</td>
</tr>
<tr>
<td></td>
<td>Introduction to DoD Modeling and Simulation (1820)</td>
<td></td>
<td>Room S320A</td>
</tr>
<tr>
<td></td>
<td>Room S320B</td>
<td>1300 - 1430</td>
<td>Industry Day: Synthetic Training Environment (STE) Update to Industry (page 42)</td>
</tr>
<tr>
<td></td>
<td>Cybersecurity Best Practices to Protect LVC Networks, Training and Simulation Systems (1817)</td>
<td></td>
<td>Room S330EF</td>
</tr>
<tr>
<td></td>
<td>Room S320C</td>
<td>1400</td>
<td>Exhibits Open</td>
</tr>
<tr>
<td></td>
<td>Simulation Conceptual Modeling (1809)</td>
<td></td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td></td>
<td>Room S320D</td>
<td>1400 - 1600</td>
<td>TUTORIALS (Synopses begin on page 58)</td>
</tr>
<tr>
<td></td>
<td>Distributed Interactive Simulation (DIS) 101 (1840)</td>
<td></td>
<td>Room S320A</td>
</tr>
<tr>
<td></td>
<td>Room S320F</td>
<td>1430 - 1600</td>
<td>Industry Day: Military Innovation for Learning (page 25)</td>
</tr>
<tr>
<td></td>
<td>Introduction to Data Standards and Standards Organization in Modeling and Simulation (1838)</td>
<td></td>
<td>Room S320D</td>
</tr>
<tr>
<td></td>
<td>Room S320F</td>
<td>1500</td>
<td>Industry Day: The Persistent Cyber Training Environment (PCTE) (page 42)</td>
</tr>
<tr>
<td></td>
<td>An Introduction to Cognitive Systems for Modeling &amp; Simulation (1849)</td>
<td></td>
<td>Room S330EF</td>
</tr>
<tr>
<td></td>
<td>Room S320GH</td>
<td>1600 - 1730</td>
<td>SIGNATURE EVENT 2: I/ITSEC Fellows (page 16)</td>
</tr>
<tr>
<td></td>
<td>Securing Distributed LVC Simulations with Data Distribution Service (DDS) (1826)</td>
<td></td>
<td>Room S330A</td>
</tr>
<tr>
<td></td>
<td>Room S310AB</td>
<td>1600</td>
<td>Exhibits Close</td>
</tr>
<tr>
<td></td>
<td>3D Printing/Manufacturing Process Primer for the M&amp;S Practitioner (1810)</td>
<td></td>
<td>Room S310C</td>
</tr>
<tr>
<td></td>
<td>Room S310C</td>
<td>1800</td>
<td>All Registration Stations Close</td>
</tr>
<tr>
<td>1030</td>
<td>SIGNATURE EVENT 1: Congressional Modeling and Simulation Event (page 15)</td>
<td>1300 - 1430</td>
<td>Industry Day: Synthetic Training Environment (STE) Update to Industry (page 42)</td>
</tr>
<tr>
<td>1245</td>
<td>TUTORIALS (Synopses begin on page 53)</td>
<td>1400</td>
<td>Exhibits Open</td>
</tr>
<tr>
<td>1300</td>
<td>Industry Day: Synthetic Training Environment (STE) Update to Industry (page 42)</td>
<td>1430 - 1600</td>
<td>TUTORIALS (Synopses begin on page 58)</td>
</tr>
<tr>
<td></td>
<td>TUTORIALS (Synopses begin on page 53)</td>
<td>1430 - 1600</td>
<td>TUTORIALS (Synopses begin on page 58)</td>
</tr>
<tr>
<td>1400</td>
<td>Exhibits Open</td>
<td>1430 - 1600</td>
<td>TUTORIALS (Synopses begin on page 58)</td>
</tr>
<tr>
<td>1430</td>
<td>FOCUS EVENT 1: Military Innovation for Learning (page 25)</td>
<td>1500</td>
<td>Industry Day: The Persistent Cyber Training Environment (PCTE) (page 42)</td>
</tr>
<tr>
<td>1500</td>
<td>Industry Day: The Persistent Cyber Training Environment (PCTE) (page 42)</td>
<td>1600 - 1730</td>
<td>SIGNATURE EVENT 2: I/ITSEC Fellows (page 16)</td>
</tr>
<tr>
<td>1600</td>
<td>SIGNATURE EVENT 2: I/ITSEC Fellows (page 16)</td>
<td>1800</td>
<td>Exhibits Close</td>
</tr>
<tr>
<td>1800</td>
<td>Exhibits Close</td>
<td>1800</td>
<td>All Registration Stations Close</td>
</tr>
<tr>
<td>1800</td>
<td>All Registration Stations Close</td>
<td><strong>1800</strong></td>
<td>All Registration Stations Close</td>
</tr>
<tr>
<td>TIME</td>
<td>EVENT</td>
<td>LOCATION</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>0700</td>
<td>Conference and Exhibit Registration Open</td>
<td>South Concourse, S220CDE</td>
<td></td>
</tr>
<tr>
<td>0700</td>
<td>Satellite Registration Open</td>
<td>Hyatt Regency Main Lobby</td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td><strong>Air Force Industry Days</strong> (see page 42 for schedule)</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>0830 - 1000</td>
<td><strong>OPENING CEREMONIES</strong></td>
<td>Hyatt Regency Windermere Ballroom</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Call to Order</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presentation of Colors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>National Anthem</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Invocation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>OPENING REMARKS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elizabeth Biddle, Ph.D., 2018 Conference Chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>KEYNOTE ADDRESSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><img src="invited" alt="Admiral Christopher W. Grady" /></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commander, U.S. Fleet Forces</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Command and Commander, U.S. Naval Forces Northern Command</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stan Deal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Executive Vice President, The Boeing Company and President &amp; CEO,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boeing Global Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1030 - 1200</td>
<td><strong>SIGNATURE EVENT 3:</strong> Senior Leader Panel (page 17)</td>
<td>Hyatt Regency Windermere Ballroom</td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>Exhibits Open</td>
<td>Exhibit Hall</td>
<td></td>
</tr>
<tr>
<td>1200 - 1330</td>
<td>Lunch (Opening of Exhibits and Lunch will occur at 1200 or upon adjournment of the General/Flag Officer Panel)</td>
<td>South Hall B</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td><strong>PAPER SESSIONS</strong> (Title/Author List begins on page 66. Session schedules for this timeframe are on page 62.)</td>
<td>Rooms S320ABCDEF</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td><strong>SIGNATURE EVENT 4:</strong> The Navy the Nation Needs (page 18)</td>
<td>Room S330BCD</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td><strong>COMMUNITY OF INTEREST 1:</strong> Simulation Standards and SISO (page 38)</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>PAPER SESSIONS</strong> (Title/Author List begins on page 66. Session schedules for this timeframe are on page 62.)</td>
<td>Rooms S320ABCDEF</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>FOCUS EVENT 1:</strong> Military Innovation for Learning (page 25)</td>
<td>Room S329</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>FOCUS EVENT 2:</strong> Intelligent Tutoring Optimization within Future Training Concepts (page 26)</td>
<td>Room S320GH</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>FOCUS EVENT 3:</strong> Black Swan: AI Run Amok (page 27)</td>
<td>Room S330BCD</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>FOCUS EVENT 4:</strong> Innovative Acquisition in the Cyber Domain Panel (page 28)</td>
<td>Room S310AB</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>PROGRAM BRIEF 1:</strong> Air Force Acquisition Update (page 41)</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td><strong>SPECIAL EVENT:</strong> Launch Pad Session 1: Augmented and Virtual Reality (page 43)</td>
<td>Booth 1086</td>
<td></td>
</tr>
<tr>
<td>1700 - 1830</td>
<td>Exhibitor Networking Event</td>
<td>Exhibit Hall</td>
<td></td>
</tr>
<tr>
<td>1600</td>
<td>Satellite Registration stations at Hyatt and Hilton close</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>Convention Center Registration closes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>Senior Leaders Networking Hour and M&amp;S Awards Dinner, by invitation from NTSA only</td>
<td>Hyatt Regency</td>
<td></td>
</tr>
<tr>
<td>1830</td>
<td>Exhibits Close</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>LOCATION</td>
<td>CONFERENCE AGENDA</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>0700</td>
<td>Conference and Exhibit Registration Open</td>
<td>South Concourse, S220CDE</td>
<td></td>
</tr>
<tr>
<td>0730 - 1030</td>
<td>PAPER SESSIONS</td>
<td>Rooms S320ABCDEF</td>
<td></td>
</tr>
<tr>
<td>0800 - 1000</td>
<td>SIGNATURE EVENT 5:</td>
<td>Room S320GH</td>
<td></td>
</tr>
<tr>
<td>0800 - 1000</td>
<td>SIGNATURE EVENT 6:</td>
<td>Room S330BCD</td>
<td></td>
</tr>
<tr>
<td>0800 - 1000</td>
<td>PROGR NM BRIEF 2:</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>0900</td>
<td>Air Force Industry Days</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>0945 - 1115</td>
<td>SPECIAL EVENT: Launch Pad Session 2:</td>
<td>Booth 1086</td>
<td></td>
</tr>
<tr>
<td>0930</td>
<td>Exhibits Open</td>
<td>Exhibit Hall</td>
<td></td>
</tr>
<tr>
<td>1030 - 1200</td>
<td>PAPER SESSIONS</td>
<td>Rooms S320ABCDEF</td>
<td></td>
</tr>
<tr>
<td>1030 - 1200</td>
<td>SIGNATURE EVENT 7:</td>
<td>Room S330BCD</td>
<td></td>
</tr>
<tr>
<td>1030 - 1200</td>
<td>FOCUS EVENT 1:</td>
<td>Room S329</td>
<td></td>
</tr>
<tr>
<td>1030 - 1200</td>
<td>FOCUS EVENT 5:</td>
<td>Room S320GH</td>
<td></td>
</tr>
<tr>
<td>1030 - 1200</td>
<td>FOCUS EVENT 6:</td>
<td>Room S310AB</td>
<td></td>
</tr>
<tr>
<td>1030 - 1230</td>
<td>Industry Day: Sailor 2025 Ready, Relevant, Learning (RRL) Industry Day</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>1200</td>
<td>Lunch</td>
<td>South Hall B</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td>PAPER SESSIONS</td>
<td>Rooms S320ABCDEF</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td>SIGNATURE EVENT 8:</td>
<td>Room S310AB</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td>FOCUS EVENT 7:</td>
<td>Room S320GH</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td>FOCUS EVENT 8:</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>1400 - 1530</td>
<td>COMMUNITY OF INTEREST 2:</td>
<td>Room S329</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>PAPER SESSIONS</td>
<td>Rooms S320ABCDEF</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>SIGNATURE EVENT 9:</td>
<td>Room S330BCD</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>FOCUS EVENT 1:</td>
<td>Room S329</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>FOCUS EVENT 9:</td>
<td>Room S320GH</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>FOCUS EVENT 10:</td>
<td>Room S310AB</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>PROGRAM BRIEF 2:</td>
<td>Room S330EF</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>SPECIAL SESSION:</td>
<td>Room S330A</td>
<td></td>
</tr>
<tr>
<td>1600 - 1730</td>
<td>SPECIAL EVENT:</td>
<td>Booth 1086</td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>All Registration Stations Close</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>Exhibits Close</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>PROFESSIONAL DEVELOPMENT WORKSHOPS (Synopses on pages 74 - 75)</td>
<td>LOCATION</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------------------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW2: Live-Virtual-Constructive (LVC) Interoperability Techniques</td>
<td>Room S330F</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW3: Certified Modeling &amp; Simulation</td>
<td>CANCELLED</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW4: Harnessing the Power of Data Analytics to Optimize Training</td>
<td>Room S330H</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW5: Export Controls on the Defense Technology and NIST 800-171 Compliance</td>
<td>Room S331A</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW6: Using ROI-Focused Design Thinking to Deliver Impact Results</td>
<td>Room S331B</td>
<td></td>
</tr>
<tr>
<td>0800 - 1700</td>
<td>PDW7: Serious Game Design Workshop</td>
<td>Room S330A</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW8: Cyberspace Training: Is this even Legal?</td>
<td>Room S331C</td>
<td></td>
</tr>
<tr>
<td>0800 - 1200</td>
<td>PDW9: Team and Collective Training Needs Analysis (TCTNA)</td>
<td>Room S331D</td>
<td></td>
</tr>
</tbody>
</table>
South Concourse

Although the buildings are large, a five minute walk will take you...
- from the South Concourse to the North Concourse
- from the South Concourse to the Hilton
- from the South Concourse to the Hyatt Regency, formerly Peabody Orlando
- from the South Concourse to the Rosen Center
(In comparison, a walk from Hall A to Hall F in the West Concourse takes about ten minutes.)

LEVEL 2 (Entry / Registration / Exhibit Hall)
Special Events
Congressional Modeling and Simulation Event

SELECT MEMBERS OF CONGRESS WILL PARTICIPATE IN THIS I/ITSEC EVENT

MONDAY, 26 NOVEMBER
1030 – 1200 • ROOM S330BCD
SE1

This special event invites everyone attending the conference or exposition to hear from the training and simulation leaders in congress. It is also a great opportunity for you to interact with Congressional Members on issues of importance to you or your company and to impress upon them your priorities. With defense budgets constantly in flux, this forum provides you an opportunity to advocate for the value of training and simulation in support of national security. Attendees will hear from the new leadership of the Modeling and Simulation Congressional Caucus on their perspective of the situation in Washington and have the opportunity to make their case for timely investments in modeling and simulation. With every budget dollar being scrutinized, strong advocacy for training and readiness has never been more important. This event is always standing room only, so get there early.

Bobby Scott*
Caucus Chair
Virginia 3rd District

Stephanie Murphy*
Caucus Co-Chair
Florida 7th District

John Rutherford*
Caucus Co-Chair
Florida 4th District

Scott Taylor*
Caucus Co-Chair
Virginia 2nd District

Robert Aderholt*
Alabama 4th District

Gus Bilirakis*
Florida 12th District

Diane Black*
Tennessee 6th District

Jim Bridenstine*
Oklahoma 1st District

Mo Brooks*
Alabama 5th District

Vern Buchanan*
Florida 16th District

Ken Calvert*
California 42nd District

John Carter*
Texas 31st District

Steve Cohen*
Tennessee 9th District

Mike Conaway*
Texas 11th District

John Cornyn
Texas

Ted Cruz
Texas

Susan Davis*
California 53rd District

Blake Farenthold
Texas, 7th District

Dianne Feinstein
California

Virginia Foxx*
North Carolina 5th District

Duncan Hunter
California 50th District

Tim Kaine
Virginia

Doug Lamborn*
Colorado 5th District

John Cornyn
Texas

Ed Markey
Massachusetts

Bill Nelson
Florida

Scott Peters*
California 52nd District

Bill Posey*
Florida 8th District

Tom Rooney*
Florida 17th District

Marco Rubio
Florida

C.A. Dutch Ruppersberger*
Maryland 2nd District

Richard Shelby
Alabama

Niki Tsongas*
Massachusetts 3rd District

Tim Walz*
Minnesota 1st District

Mark Warner
Virginia

Elizabeth Warren
Massachusetts

Joe Wilson*
South Carolina 2nd District

Robert Wittman*
Virginia 1st District

*denotes members of the Congressional M&S Caucus

The following members of Congress have been invited to address the M&S Community at I/ITSEC:

Doug Lamborn*
Colorado 5th District

John Cornyn
Texas

Ed Markey
Massachusetts

Bill Nelson
Florida

Scott Peters*
California 52nd District

Bill Posey*
Florida 8th District

Tom Rooney*
Florida 17th District

Marco Rubio
Florida

C.A. Dutch Ruppersberger*
Maryland 2nd District

Richard Shelby
Alabama

Niki Tsongas*
Massachusetts 3rd District

Tim Walz*
Minnesota 1st District

Mark Warner
Virginia

Elizabeth Warren
Massachusetts

Joe Wilson*
South Carolina 2nd District

Robert Wittman*
Virginia 1st District

*denotes members of the Congressional M&S Caucus

The Congressional panel addresses the audience and visits the exhibit floor during I/ITSEC 2017.
Susan K. Numrich (Sue), Ph.D., CMSP, has contributed to the science and technology of Modeling and Simulation for over 50 years. Sue dug right in as a Research Physicist at the U.S. Naval Research Laboratory (NRL) following receipt of her AB in Physics from Trinity College. As is typical for a researcher, she began her career at the engineering level of modeling and simulation and moved gradually into parallel and distributed simulation. She was fortunate to have support from NRL to pursue graduate work at The Johns Hopkins University, American University and Cambridge University (UK). She was selected by NRL and their parent organization, the Office of Naval Research, to represent the Science and Technology (S&T) community as part of the Navy’s Modeling and Simulation Management Office, a position that broadened her knowledge base to simulation used for training, acquisition, analysis and support to operations. When The Technical Cooperation Program (US, UK, CA, AUS, NZ) decided to explore distributed simulation as an area of international interest, Sue was selected to lead the development from a study group to a permanent committee, an effort for which she received both Project and Individual Performance Awards. When NATO chose to add simulation to their Studies and Analysis group, Sue joined as the U.S. representative for simulation, a position she held for a three-year term. Meanwhile, back at the laboratory, she assumed leadership of a Branch where she managed programs in virtual reality, distributed simulation, massively parallel processing, signal processing and mission planning systems. Her last three years as a civil servant, Sue served as the Director of Technology for the Defense Modeling and Simulation Office where she was exposed to simulation across the entire Department of Defense. Since 2005, she has been a research staff member at the Institute for Defense Analyses where she has contributed to studies in the use of military simulation, the incorporation of human activity and behavior into various types and levels of simulation, and the validation of a variety of simulations. Sue joined the I/ITSEC community in Emerging Concepts and Innovative Technologies. She founded and was the first chair of the Tutorial Board, now a staple of I/ITSEC week, offering introductory through advanced tutorials on a wide variety of relevant topics to help educate members of the Modeling, Simulation and Training community. Along the way Sue accepted an Office of the Secretary of Defense Exceptional Civilian Service Award, received a patent, became a Fellow of the Acoustical Society of America and a Jackson Fellow of the Council for Excellence in Government, wrote four book chapters and more than 50 technical papers, and served in two Academic appointments spanning twenty years.

I/ITSEC Fellows

2018 I/ITSEC Fellow, Sue Numrich, Ph.D., embraced the Fellow’s presentation as an opportunity to create a retrospective, but one that might point to the future. She focused on merging two ideas. First, she examined forecasting. The Intelligence Advanced Research Projects Agency (IARPA) sponsored a three-year study on forecasting, pitting the “wisdom of the crowd” against other proposed techniques. The clear winner was a Penn/Berkeley project focused on superforecasters, indicating, surprisingly, superforecasters can be developed. Second, she examined lessons unlearned. We talk all the time about lessons learned and even create organizations to gather and publish them. When we truly learn a lesson, we incorporate it into our practices to advance our knowledge and capability and improve our simulation products. However, what about lessons unlearned, those things we tripped over, documented, forgot and thus tripped over again? What is their role? And what about our failures, the ones we hesitate to celebrate in papers and presentations? Is there value in them? If you would like to see these ideas come together and point to ways we may be able to grow our knowledge and capability, read the paper and attend the presentation. See examples of some lessons unlearned and how they plague us today, and perhaps find a way to leverage them to understand the future and more successfully develop future capabilities.
Global forces continue to be challenged by erratic budgets and expanding threats. Services continue to engage a wide array of threats that range from disaster assistance to nation state aggression to rogue nation antagonism. Additionally, Nations continue to deal with mass migration and cyber-attacks. Our Senior Officer panel will address current and future environments within the context of this year’s conference theme, Launching Innovation in Learning: Ready, Set, Disrupt. This year’s panel will include senior representatives from all U.S. Military Services and NATO. Following opening remarks, the audience will interact with the panel through written questions. Don’t miss the opportunity to hear from national leaders on the way ahead.
Superior technology and innovation in training continues to give the United States Navy an advantage over its potential adversaries. In this special event, Navy Flag Officers will discuss how the U.S. Navy plans to advance the best-prepared fighting force in the world. This year’s I/ITSEC theme, Launching Innovation in Learning: Ready, Set, Disrupt, highlights how the Navy combines the latest learning innovations with sound instructional techniques to transform traditional military training methods into career learning, leading to true proficiency that will further our asymmetrical advantage against potential adversaries.

The United States Navy is a force that is forward, engaged and ready. In the face of any potential opponent, it is the readiness of our personnel – their ability to make sound decisions under pressure – that will provide our greatest warfighting advantage. Because highly-skilled warfighters are able to make superior decisions and perform their missions better, training sits at the very core of naval readiness. Simply put, superior knowledge, skills, and proficiency are among the most effective tools available to guarantee that our Sailors remain America’s greatest asymmetrical advantage. To that end, the Secretary of the Navy Richard V. Spencer called for the Department of the Navy to “become and remain a continual learning organization, because that is how you maintain Warfighting Readiness and excel in the battle.”

Likewise, the United States Maritime Strategy calls for the sea services to “create a true learning competency that unites our acquisition, requirements, and programming efforts to deliver the latest in technology and design, resulting in realistic simulation and live, virtual, and constructive scenarios before our people deploy…” It is understood that high-quality training is an investment in improving the human performance of our warfighters, but in developing training we also have the responsibility to make affordability a priority throughout the training system cycle of research, development, acquisition and sustainment. To remain flexible, agile and ready, our Navy seeks out and employs innovative training methods to train Sailors more efficiently and to ever-higher levels of proficiency.

At the same time, the Navy is working to prevent inefficiencies both in the training pipeline and in the training acquisition process. For the Navy, a key measure in deciding whether to invest in a new training technology is to ask whether it will make the force more lethal. As Secretary Spencer said to senior Naval Officers this year, “People are foundational to everything we do. We could have the best processes in the world. We could have the best ships, airplanes, rifles, and tanks – but they are nothing without the people who operate and maintain them. The Department of the Navy is dedicated to recruiting, training, and retaining the best America has to offer, at every level…”

The Sea Services of the United States are critical to defending the nation’s security around the globe. The Sailors who serve today are a well-trained force, critical to the Navy’s ability to meet its mission. This panel of senior Navy leaders will provide insight from acquisition, research and technology and mission readiness perspectives into how effective, relevant training optimizes the performance of U.S. Navy Sailors, so they can be counted upon to succeed in the face of pressure. Sailors with superior training are an essential component of maintaining maritime superiority, now and in the future. As Chief of Naval Operations, Adm. John M. Richardson said, “we will build the Navy the Nation needs: a safe Navy for our Sailors, a reassuring Navy for our partners and a lethal Navy for our enemies.”
The 2018 National Defense Strategy — and Secretary Mattis personally — have emphasized the importance of cultivating warfighter talent as critical to building a more innovative, lethal force, in the face of an increasingly disruptive global security environment.

- How can DoD and the Services apply lessons from the growing field of learning science, through education and training, to help meet these new DoD strategic imperatives?
- Can learning science be leveraged in order to improve real learning outcomes, empower the warfighter, and build a more lethal force?

This Special Event will use a fresh, conversational-style approach to engage leading experts and the audience in provocative discussion on these timely issues.
Interoperability, model-ready data, timeliness and agility, and the ability to rapidly provide relevant results to decision makers.

Many of us have experienced these challenges in training and operations. Compound these hurdles with coordination across multiple Coalition partners, and it becomes even more difficult to maintain agility and responsiveness.

The 2017 IITSEC International Collaboration Panel revealed these challenges as common top-level issues when coordinating multi-national exercises and events. Some were mitigated by the diligent efforts of participating organizations, while others required longer term solutions.

This year’s panel will focus on case studies of collaboration that works. Panelists will provide an overview of the exercise or program, then discuss some of the obstacles, and conclude with successful strategies that overcame the challenges.

This is a two-way discussion. Do you have M&S solutions for joint or coalition force challenges? Panelists will welcome audience input, highlighting solutions or techniques from other programs or environments that might help overcome these identified challenges.
Launching Innovation in Learning for Marine Corps Training

LEARNING INNOVATION: PREPARING THE FUTURE LEADERS

WEDNESDAY, 28 NOVEMBER
1030 – 1200 • ROOM S330BCD
SE7

Moderator
Colonel Luis Lara
Program Manager, PM
TRASYS

Panelists
Major General William F. Mullen III
Commanding General, Training and Education Command

Brigadier General Roger B. Turner, Jr.
Commanding General, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center

Brigadier General Christian F. Wortman
Commanding General, Marine Corps Warfighting Lab

Brigadier General Gregory L. Masiello
Program Executive Officer for Air Anti-Submarine Warfare, Assault & Special Mission Programs

Brigadier General Arthur J. Pasagian
Commander, Marine Corps Systems Command

This year’s conference theme, Launching Innovation in Learning: Ready, Set, Disrupt, focuses on the ever changing landscape, and how innovation continues to be one of the key factors in our future.

Our National Security Strategy dated December 2017 requires a renewed focus on training, logistics, and maintenance to ensure combat readiness. Further, the Commandant’s Planning Guidance requires us to capitalize on existing and emerging technologies to increase realistic training by increasing the reps in mentally and physically stressful environments for all MAGTF elements prior to engaging in combat. We must arrive in theater in time to shape events quickly. This requires a resilient forward posture and agile global mobility forces who are combat ready. Training provides the foundation for readiness, one of our most critical tools to ensure our Marines remain our greatest asymmetrical advantage.

To ensure our future force remains expeditionary, agile and ready, our Marine Corps will implement innovative methods to train more efficiently and to ever-higher levels of proficiency. We understand realistic, high-quality training is an investment in our people. We capitalize on this investment by prioritizing affordability throughout the training system cycle of research, development, acquisition and sustainment.

This panel of senior Marine Corps leaders will provide insight into planned innovations for training our Marines in concert with our National Security Strategy and the Commandant’s Planning Guidance, now and in the future, from an acquisition, research and technology and mission readiness perspective.
The technology gap between the U.S. and potential adversaries is shrinking. For the Navy to maintain an advantage over rapidly-developing potential adversaries, it must take great ideas and rapidly convert them into readiness and new capabilities. Doing so ensures our fleet will win against any adversary.

Assistant Secretary of the Navy for Research, Development and Acquisition James “Hondo” Geurts emphasized the importance of delivering good ideas to “someone who can make them happen.” This calls for a sense of purpose, urgency, and agility in our acquisition process. “Agility is how fast we can pivot to new problems, adapt to new circumstances and then be the future we want, not just react to it.”

During this panel, a group of Navy acquisition professionals will highlight this sense of purpose and urgency as they discuss acquisition challenges faced by government and industry.
Operationalizing Training for Global Integrated Operations

INTEGRATING THE WORLD: SPECIAL EVENT TO DISCUSS PREPARING THE JOINT FORCE FOR GLOBAL INTEGRATED OPERATIONS

Moderator
David T. Fautua, Ph.D.
Chief, Individual Training & Learning, Joint Staff J7

Panelists
Lieutenant General Daniel J. O’Donohue, USMC
Director for Joint Force Development, Joint Staff J7

Theresa Whelan, SES
Principal Deputy Assistant Secretary of Defense for Homeland Defense and Global Security

Major General David W. Allvin, USAF
Vice Director, Strategy, Plans, and Policy, Joint Staff J5

Rear Admiral Patrick A. Piercey, USN
Chief of Staff, European Command

George Foresman
Senior Fellow for the National Defense University and Former United States Under-Secretary of Homeland Security

“We must continually adapt to meet current challenges and innovate to develop the capabilities we will need to win future fights...future conflicts will most often be transregional and fought across multiple domains and functions. Driven by this assumption, one of my highest warfighting priorities is to improve our ability to integrate joint capabilities in a transregional, multidomain, and multifunctional fight.”
—General Dunford, CJCS (JFQ 80, 1st Qtr 2016)

The increasing demand for Global Integrated Operations (GIO) requires a shift from isolated (regional) conflicts and command/control to a more integrated, holistic approach to global security. Decisions made at the national level and by Combatant Commanders have second and third order effects on other Combatant Commands (CCMDs). Moving low-density, high-demand intelligence assets from one CCMD to another creates challenges that must be mitigated by the losing CCMD. Increased emphasis from senior leaders on this perspective is driving change across the Joint Force. The new challenges of the existing and future security environment will require better, and faster, decision-making.

This panel will discuss the impacts and challenges of achieving Global Integrated Operations, with a heavy focus on changing the current Joint Exercise Programs for all of the CCMDs. Topics will address: greater involvement by senior leaders within DoD at all levels: OSD, Joint Staff, CCMDs and NDU; operationalizing the Joint Staff by making it part of the training audience; shifting from a regional to global perspective, moving from “scripted” scenarios to real-world dynamic problems/conditions; and the change in training approach towards a “rehearsal mindset.”

Additionally, the panel will look for answers to the questions:
• When the “training sandbox” is the entire globe, how do you build the modeling and simulation environment?
• How do you make an exercise stimulating, engaging and realistic to senior decision-makers and their staffs from the national level down into multiple CCMDs?
• How do you model the Joint Force with enough fidelity to capture the impacts of key decisions and risks analysis – political and military – without being bogged down in tracking every single tank, plane, or ship – or cyber and space capabilities?
International Innovations in the Classroom

MANY NATIONS, ONE GOAL: THE BEST POSSIBLE EDUCATION AND TRAINING FOR OUR STUDENTS

THURSDAY, 29 NOVEMBER
1030 – 1200 • ROOM S320GH
SE10

Moderator
Paul Thurkettle
Education & Training Technologies Manager, Allied Command Transformation, North Atlantic Treaty Organization

Panelists
Air Vice-Marshall C J Luck
The Commandant, Joint Services Command and Staff College, Defence Academy of United Kingdom

Major General Sergey Salkutsan
Deputy Commandant for Academic Affairs of the National Defense University, Ukraine

Brigadier General Virginia Tattersall
Deputy Commander, Military Personnel Generation, Canadian Armed Forces

Colonel Timothy Dreifke
United Commandant NATO School Oberammergau, Germany, United States Air Force

Jean-Paul Massart
Chief Education and Training Service Line, NATO Communications and Information Agency, Belgium NATO Civilian A5

The last great revolution in international education and training technology was Power-Point. Today, worldwide, the atmosphere has changed. Leaders demand “revolutions” in their facilities to meet the needs of 21st century learners. Many national military and civilian institutions are leading this effort and many more seek to do the same, to cultivate desperately needed skills, capabilities, and attributes.

In response to these challenges, many nations are now actively changing the structure and format of the classroom, bringing in new “ground breaking” (in terms of how we have done it for the past 200+ years) innovations. These ideas include virtual classrooms, “flipping” the classroom, video lecture libraries and streaming, and virtual reality and gamification.

During this special event, international leaders of education and training facilities will discuss implementing these changes (from the big stick to the carrot approach) and will also share their success stories and challenges. By learning from one another, discussing best practices and lessons learned, we can avoid costly mistakes and decrease long development timelines.

An active discussion between the panel and attendees will follow the opening comments.
Military Innovation for Learning

DESIGN WITH THE END IN MIND

The Department of Defense’s Advanced Distributed Learning Initiative and the Office of Personnel Management’s Innovation Lab will jointly host a series of design thinking challenges focused on addressing unique issues that arise with the development of the Future Learning Ecosystem.

This Ecosystem represents an advancement in how learning will be organized, accessed, and supported in the future. More specifically, learning will be treated not as a single event or series of events but rather as a personalized life-long journey that connects formal and informal learning experiences accessible anywhere, anytime. While extensive research has already been conducted across the myriad of disciplines needed to develop this more holistic coordination and advancement of the learning system, it is necessary to centralize and coordinate these efforts to create the required connections across technology, learning science, and the greater supporting structures. Accordingly, this special event will involve a series of design thinking workshops using human-centered design principles to help navigate the complex ecosystem problems and define effective solutions. The series will begin first with a 90-minute instructional tutorial, followed by a 3-part series of workshops, and ending with a summation of the findings. Each problem set will focus on a different aspect of developing the Future Learning Ecosystem. These include challenges in the areas of ethics and artificial intelligence in the total learning architecture, the role of analytics and visualizations in creating a DoD-wide learner profile, and the inherent challenges in change management when coordinating a multi-community, multi-layer common infrastructure.

There will be an opportunity to submit quad charts, white papers, or videos to the ADL Initiative. These submissions may address one or more of the questions studied during the workshops and will be reviewed by Thursday of the conference. Authors of exceptional ideas will be requested to write a full proposal and submit to the Advanced Distributed Learning (ADL) Initiative Broad Area Announcement (BAA), allowing the authors to progress through review process at an accelerated rate.
This session includes a panel of industry and government leaders in adaptive training and intelligent tutoring systems. The panel participants will present organization goals and challenges for the future of self-guided training. The discussion will center on the state of the art in key areas of adaptive training — human performance assessment, tutor authoring, content development, and training deployment. Each panelist will conceptualize the art of the possible for future intelligent learning systems across these areas and describe the challenges they are addressing in their ongoing programs. With facilitators and audience participation, the panel session will outline gaps to be met with emerging theories, methods, and technologies.
Continuing our Black Swan series of panel discussions, “AI Run Amok” will examine the potential far-reaching impacts of Artificial Intelligence (AI) as we integrate it into our daily lives. Our panel will present various disciplines of AI, the benefits these disciplines may deliver, and debate whether society can control AI’s long-term effects. What are the unintended consequences when applying AI to our defense, commercial, and electoral infrastructures?

Our panel of military, industry, and academic experts will define and discuss the broad technical and societal challenges in dealing with unintended consequences of AI. They will highlight modeling techniques and outcomes and describe their plans to help make our infrastructure and society more resilient.

The term Black Swan is used to describe a low probability/high impact event which could profoundly affect our future. The term comes from the 2007 book, *The Black Swan: The Impact of the Highly Improbable* by Nassim Nicholas Taleb, where he presents various world changing events and advocates anti-fragility to not only survive but thrive during crises. We believe modeling and simulation can play a major part in exploring these events in a very cost-effective manner.

Please join us for this engaging session!

**Moderator**
Mark Silbert, Ph.D.
Data Fusion Engineer/SME
AM Pierce & Associates/
Naval Air Systems Command
Consultant

**Panelists**
Justin Fessler
Artificial Intelligence
Strategist, IBM Federal

Johann Soto, USN
Sensor Fusion Branch Head
Naval Air Systems
Command, U.S. Navy

James Lester, Ph.D.
Director of the Center for
Educational Informatics
North Carolina State
University

Michael van Lent, Ph.D.
President and CEO
Soar Technology, Inc.
The Cyber Domain transforms at a staggering pace. The technology driving it experiences monumental change almost weekly, with adversaries rapidly developing, acquiring, and proliferating technologies, and our Cyber Warriors must quickly adjust their tactics, techniques, procedures, and kit to maintain strategic and tactical advantage. The Innovative Acquisition in the Cyber Domain panel brings together acquisition professionals from the U.S. Army and Navy, as well as their partners in Industry, to discuss innovative ways to develop and deliver capability within the DoD acquisition system, highlighting strategies to overcome potential challenges that could limit success.
IGNITE!
ENLIGHTEN US, BUT MAKE IT QUICK!

WEDNESDAY, 28 NOVEMBER
1030 – 1200 • ROOM S320GH
FE5

Moderator
John Aughey
Associate Technical Fellow,
The Boeing Company

Come and hear industry experts speak on topics including micro-learning, entrepreneurship, and more. Have you ever sat through a long presentation and lamented that there were only five minutes of content? Imagine if you could hear only that five minutes of targeted, compelling, and maybe even provocative content...that’s Ignite! Ignite is a presentation format that provides dynamic, high octane speakers a platform to share their passion and ideas. I/ITSEC’s version of Ignite focuses on relevant and thought-provoking topics, so bring your short attention span and prepare to be inspired, entertained, educated and amazed by an array of talented speakers. This year’s presenters have been selected from over 30 nominations, and each talk is jam-packed with inspiration and information using 20 slides that auto-advance every 15 seconds, creating a fun and dynamic event.

Presenters

Jennifer McArdle
Salve Regina University
*How Do We Train in a Contested Battlespace?*

Webb Stacy, Ph.D.
Aptima, Inc.
*Learning to Predict*

Sylvain Bruni
Aptima, Inc.
*Human-Computer Collaboration and Decision Support*

Andrew Naber, Ph.D.
Aptima, Inc.
*Adaptive Learning in Language Training*

Harold Laurence
Center for Teaching and Learning Excellence, The Army University
*Evolution in Education*

Samantha Perry, Ph.D.
Aptima, Inc.
*Communication is Key: From the Who to the What*

Session Chair:
Steve Parrish, Laerdal Medical & Simulations
Enterprise Data Analytics (EDA) has revolutionized the way industry stores, accesses, examines, and maintains its data, as well as the level of insights we routinely expect those data to yield, and the time required to refresh the data and information displayed. EDA has changed how we build and resource our analytic teams, including skillsets and level of collaboration required. Industries across the spectrum now rely on frequently open-source tools to manage and analyze data stacks the size of which would have been unheard of only a few years ago. In keeping with this year’s theme, Launching Innovation in Learning: Ready, Set, Disrupt, this panel will provide an examination of practical considerations and important lessons in the use of EDA to enable insight relevant to training. The panel will feature speakers with experience in solving applied problems for the Naval Aviation Enterprise, addressing topics including:

- Building, staffing, managing, and resourcing EDA teams to ensure all capability requirements are met
- Managing program management level requirements, expectations, and understanding about what information can be gleaned from data stacks
- Using development languages and data analytic and visualization tools to conduct meaningful analyses at the enterprise level
- Data engineering management (aka data cleaning) for data stacks and lakes, supporting real-time currency for data updates
- Defining requirements for EDA training applications, including:
  » Understanding what information is present in available data stacks
  » Defining what successful training performance looks like
  » Determining how data can be restructured and tagged to yield meaningful metrics
  » Determining how to generate or access data on platforms, training devices, or classrooms that can now yield insight that it could not before the proliferation of EDA

Panelists will draw on their own experience and expertise in managing broad EDA applications and offer insight into how these lessons should be applied to the analysis of training data analytics.
Online learning is growing in prevalence. Defense institutions are following this trend by increasingly seeking to convert their traditional, in-residence education and face-to-face training courses to distributed or blended learning courses, often motivated by potential cost-savings. While many stakeholders are in favor of the transition to online learning, concerns persist:

- Will students receive equally effective experiences via distributed/blended learning?
- Can online learning engender the same intangible (noncognitive) outcomes, such as acculturation?
- Can we afford to embrace this transition?

In this session, we will actively debate the use of online learning for military training and education. Audience members will leave with a set of clear, evidence-based arguments for each point of view. Attendees will also have a chance to participate, sharing their own thoughts, pro and con, about expanding distributed learning for military training and education.
Army Unified Data for the M&S Enterprise

MAXIMIZING SOURCE DATA FOR M&S AND MISSION COMMAND ACROSS THE ARMY ENTERPRISE

WEDNESDAY, 28 NOVEMBER
1400 – 1530 • ROOM S330EF
FE8

Moderators
Colonel Joseph Nolan, USA
Deputy Director, Army Modeling and Simulation Office
Gene Davis
Project Lead, Unified Data, Army Modeling and Simulation Office

Panelists
John Diem, SES
Executive Director, U.S. Army Operational Test Command
Justin Chae
Strategic Portfolio Manager/Army Organization Server Data Interface Product Owner, Program Executive Office Enterprise Information Systems
Kaye T. Darone
Director, Data Science, U.S. Army TRADOC G-2 Operational Environment Center
Gene Davis
Project Lead, Unified Data Army Modeling and Simulation Office
Lieutenant Colonel Edward Lerz, USA
Branch Chief, Technical Integration & Research Army Capabilities Integration Center
Glen Quesenberry
M&S PM, Army Geospatial Information Office, Army Geospatial Command
Peter Rigano
Operations Research Analyst, Joint Data Branch, U.S. Army Materiel Systems Analysis Activity

Army Unified Data for the M&S Enterprise is an AMSO-led approach to providing a consistent, standard data delivery format to instantiate models across the M&S Enterprise in order to provide simulation-sufficient data from authoritative sources. This project focuses on the interoperability of force structure data, performance data, Mission Command / M&S data alignment and access of terrain data holdings. The project is comprised of four Lines of Effort (LOEs):


LOE3 – M&S Terrain Data: Developing a One World Terrain geospatial data store with enterprise distribution portal, and a Geospatial Co-producer Certification Program (sponsor: AGC, host: CFT STE, TCM ITE, and PEO STRI).

LOE4 – Unclassified Performance Data: Sponsor: Providing unclassified Performance Data, to pair with the LOE 1 Force Structure effort for persistent use within the Army Org Server (sponsor: TRADOC G27, hosts: AMSAA and PEO EIS).

Army Unified Data is in accordance with the Vice Chief of Staff of the Army and Assistant Deputy Chief of Staff G-8’s specific guidance to “build once and reuse often” by focusing on the consistency of data from authoritative sources for M&S implementation while concurrently aligning M&S to the operational community.

Session Chair: Jimmy Moore, PeopleTec
Securing Cloud-Based Simulation Capabilities

INTEGRATING CYBERSECURITY INTO MODELING & SIMULATION AS A SERVICE

WEDNESDAY, 28 NOVEMBER
1600 – 1730 • ROOM S320GH
FE9

Moderator
Robert Siegfried, Ph.D.
Managing Director, aditerna GmbH, Vice-Chair NATO Modelling & Simulation Group

Panelists
Thomas C. Irwin, SES
Executive Director, Joint Training, Joint Staff J7

Ian West
Chief, Cybersecurity, NATO Communications and Information Agency

Patrick Stoddart
Director Army Digital Service, Defense Digital Service

Colonel Michele Turi
Director, NATO Modelling & Simulation Centre of Excellence, Italy

Christopher Johnson
Security Program Manager, Google

Cloud-based simulation capabilities will impact all future training environments and acquisition programs. An integral part of this currently ongoing transition is to integrate cybersecurity from the beginning and to provide security by design. This Special Event gives every simulation engineer, project manager, and leadership a true view on the current state and open issues of cybersecurity for cloud-based simulation and training environments.

Modeling & Simulation as a Service
Modeling and Simulation (M&S) is a key technology to deliver a great amount of military training, analysis, and decision making capabilities. Modeling & Simulation as a Service (MSaaS) combines service-based approaches with ideas taken from cloud computing. This “as a Service” paradigm supports stand-alone use as well as integration of simulated and real systems into a unified environment whenever the need arises. Leveraging commercial developments MSaaS is impacting all future simulation environments and acquisition programs.

Allied Framework for MSaaS
The Allied Framework for MSaaS is the common approach of NATO and nations towards implementing MSaaS. The joint effort is undertaken to pool and share simulation resources, and to achieve interoperability by design. Under the umbrella of the NATO Modeling & Simulation Group (NMSG) more than 100 subject matter experts from 16 nations and various NATO bodies are working together to realize the MSaaS vision to make M&S products, data and processes conveniently accessible and available on-demand to all users to enhance operational effectiveness. Demonstrations with federated cloud environments show MSaaS and cloud-based simulation are not only ideas, but actually work today!

Integrating Cybersecurity into MSaaS
Cybersecurity is a major challenge for realizing cloud-based simulation environments, and as such cybersecurity must be integrated into cloud-based simulation capabilities from the beginning. This Special Event gives every simulation engineer, project manager, and leadership a true view on the current state and open issues of cybersecurity for cloud-based simulation and training environments.
Data science, machine learning, artificial intelligence – what are they? How do these technologies work together to identify threats, minimize risks and maximize our national security?

Join Military and Industry thought leaders for an open and interactive session, answering your questions and solving our nation’s biggest security challenges.

The panel-style event will engage directly with audience members to capitalize on our collective ingenuity and develop a roadmap for integrating these technologies in an efficient, effective way. We will discuss the true definitions of each term, how the technologies work separately and together, and how you as a military leader and operator can implement them in a way that keeps our Armed Forces safe and highly operational.

So bring your questions, your knowledge and your experiences, and join us to move our military training and operations forward, gaining an edge on our adversaries and protecting the lives of our warfighters.
The Secure LVC Advanced Training Environment (SLATE) is an Air Force Advanced Technology Demonstration accomplished in partnership with the U.S. Navy. The Special Event will focus on outcomes from the recently completed demonstration that occurred in three phases over the summer and early fall of 2018. The SLATE effort was composed of six major areas of work, called “pillars”. The first pillar involves the creation and validation of an enhanced range infrastructure, data specifications and systems interfaces. The second pillar involves the creation and evaluation of methods and technology to ensure that multiple, independent channels of secure data representing different classification levels can pass securely and cleanly in real time. The third pillar involves evaluating large data throughput amongst the multiple security levels, a frequency friendly, pod form factor radio and a high capacity waveform created for the effort. The fourth pillar involves creating and flying a “pod form factor” to facilitate seamless L, V and C data to move between the aircraft and the ground in real time. The fifth pillar involves modification to aircraft operational code and a specialized sensor processor that enable on-board sensors and other systems to recognize and manipulate V and C data in real time. The sixth pillar involves assessing the impact of the integration and flight testing of the other five areas and technologies on readiness training and assessments of the operational value of the SLATE as a training capability. Each of the presentations will describe the critical aspects of their pillar work towards the successful integration and completion of the effort. The descriptions will detail advances and outcomes from both engineering and modeling and simulation perspectives. Lessons learned will be highlighted in each presentation. Finally, we will describe continued gaps in technology and policy to fully realize secure and interoperable LVC in the tactical air communities of interest.
Operation Blended Warrior Panel

HIGHLIGHTING THE CHALLENGES, SOLUTIONS AND NEXT STEPS FOR LVC!

THURSDAY, 29 NOVEMBER
1030 – 1200 • ROOM S310AB
FE12

Moderators
Commander Gilbert Gay, USN
Military Deputy LVC-T, Naval Air Warfare Center Training Systems Division

Lieutenant Colonel Robert Kammerzell, USA
Army Modeling and Simulation Office Liaison Officer, U.S. Army PEO STRI

Panelists
Kent Gritton
Director LVC-T, Naval Air Warfare Center Training Systems Division

Dave Kotick
Senior Scientific Technical Manager/LVC Training Solutions, Naval Air Warfare Center Training Systems Division

Angus McLean, Ph.D.
Technical Fellow – LVC, Rockwell Collins

Michael Woodman, Ph.D.
Solutions Architect Senior Principal, SAIC

Operation Blended Warrior (OBW) is a collaborative Live, Virtual, Constructive (LVC) event conducted between DoD and Industry for the purpose of uncovering and documenting the challenges to rapidly developing and integrating a training LVC environment. Capitalizing on the phenomenal capabilities demonstrated at I/ITSEC by our industry and academia partners, OBW utilized a networked architecture to allow those capabilities to be integrated in a fashion representative of their real-life intended purpose. In this manner, I/ITSEC attendees were able to see industry capabilities in a highly representative environment, but talk to LVC experts about the challenges (and potential solutions) associated with integrating the various capabilities together. Whether the challenge to LVC is standards, database interoperability, cyber, performance measurement, cross-domain solutions, or distributed after action review, OBW was able to help attendees and participants better understand and demonstrate those challenges. During this panel discussion, leaders from the past OBW events will describe LVC challenges and initiatives addressed during the planning, integration, and execution of this I/ITSEC Special Event.
Artificial Intelligence (AI), long the subject of science fiction, is rapidly gaining momentum as a key enabler in a variety of industries. The modeling, simulation and training communities are exploring AI to help understand student performance, provide tailored training and reduce the resources required to develop training products. Other industries are turning to AI to solve problems such as scheduling operations, point of need support, medical diagnostics and facility management.

In this first Women in Defense Central Florida-organized event, women leaders in AI from large businesses will share their unique perspectives on:

- AI maturity
- Problems that AI can address
- Challenges to be overcome
- Anticipated innovations

Each panelist will provide an overview of her background and organizational AI focus, followed by an interactive question and answer session between panelists and the audience.
The use of standards is widely recognized as a proven method for increasing interoperability and reducing time and cost to deliver effective solutions. This is especially true in areas like modeling, simulation, and training where solutions are commonly delivered by integrating a mix of existing and/or newly developed components. In this event, you will hear from M&S standardization leads from both the U.S. DoD and NATO, who will describe their standardization process. You will then hear from leads and proponents of three standards development efforts in the Simulation Interoperability Standards Organization (SISO) covering a sampling of SISO standards at different levels of maturity. The standards covered will range from process guidance product to data exchange standards. By attending this special event, you will gain a renewed appreciation for the value of standards and a more in-depth understanding of how they are developed, adopted, supported, and maintained.

**Moderator**
Roy Scrudder  
Program Manager, Applied Research Laboratories, The University of Texas at Austin

**Panelists**  
Leigh Yu  
Deputy Director, U.S. Defense M&S Coordination Office  
Wim Huiskamp  
Chief Scientist M&S and Gaming, TNO Defence  
Katherine L. Morse, Ph.D.  
Principal Professional Staff, Johns Hopkins University Applied Physics Laboratory  
James M. (Mark) McCall  
SISO Executive Director & Chair, SISO Distributed Interactive Simulation Product Support Group  
Michael Baker  
Lead Engineer, Combat Air Forces Distributed Mission Operations, USAF Simulators Program Office  
Jean-Louis Gougeat  
Program Manager, Sogitec Industries  
Tracy J. Titcombe  
Nathan L. Vey  
Science & Technology Manager, SFC Paul Ray Smith Simulation & Training Technology Center (STTC), Advanced Modeling & Simulation Branch (AMSB)  

---

**The European Perspective on Blended Simulation**

Modeling and Simulation is a crucial technology for current and future training needs. The challenges of a complex mission environment and the limited availability of live training opportunities lead to increasing use of simulation as a cost-effective means to achieve mission readiness of our armed forces. However, live training remains important as it complements virtual and constructive simulations.

The European Training and Simulation Association (ETSA) has invited representatives from several European armed forces to discuss the national vision on the optimal mix of live, virtual and constructive simulation (i.e., blended simulation). The presenters will provide an overview of current capabilities and share examples of blended simulation approaches that leverage the specific advantages of different approaches. The evolution and mid-term plans will be discussed, as well as the partnerships (NATO, EDA, R&D, Industry) that are in place or desired to further develop blended simulation capabilities.

The ETSA special event panel session will engage with the audience on the way ahead towards blended simulation and discuss how to engage with ETSA and leverage its partnership agreements with NTSA, SISO and Industry.

**Moderators**
Wim Huiskamp  
Chief Scientist M&S and Gaming, TNO Defence  
ETSA Board Member  
Jean-Louis Igarza, Ph.D.  
Chief Scientist, Antycip Simulation  
Vice-Chair, ETSA

**Panelists**
Graham McIntyre  
Chairman, ETSA, United Kingdom  
Lieutenant Colonel Peter van Onzenoort  
Head Simulation Section, Netherlands Armed Forces Joint IV Command, Netherlands  
Lieutenant Colonel Roberto Ambra  
Head of the Section Avionics, ITAF HQ, Italy  
Major (Ret.) Ulf Jinnestrand  
Senior Consultant and Advisor, 4C Strategies, Sweden
Geospatial Standards Forum

The Geospatial/Environmental Database Standards event provides an opportunity for the major Service/Command geospatial and environmental database producers to update the community on their products, standards, and processes, and to share their plans and challenges with dataset customers, data suppliers, and other interested parties. This event fosters data sharing and reuse across the M&S enterprise and converging on common standards. The result is reduced data production times to empower the agile force. This will be a panel with a short presentation by each panelist followed by Q&A.

Moderator
Bill Hopkinson, Ph.D.
M&S Analyst, Defense Modeling and Simulation Coordination Office

Panelists
Earl Miller
Special Operations Forces Planning, Rehearsal, and Execution Preparation (SOFPREP) Branch Chief, Special Operations Command SOFPREP

Tom Creel, Ph.D.
SFN Technical Executive, National Geospatial Agency

David Graham
Chair Open Geospatial Consortium Common Data Base Standards Working Group, Open Geospatial Consortium

Industry Connects Industry Consortium for Learning Engineering (ICICLE)

This is an informational meeting for a new chapter of ICICLE, the Institute of Electrical and Electronics Engineers (IEEE) effort to establish Learning Engineering as a profession. Learning Engineering offers a systematic approach to the design, deployment, and maintenance of complex, multi-modal, multi-vendor training systems. NATO military training organizations are leaders in Learning Engineering practice, since they figure out how to use cutting-edge technologies in innovative ways. ICICLE is launching community-of-practice chapters: regional groups, student groups, and others that represent unique perspectives on Learning Engineering. If there is adequate interest at the meeting, this session will establish interest in an ICICLE chapter for military training.

Moderators
Robby Robson, Ph.D.
Chief Executive Officer, Eduworks
Member, IEEE Standards Board

Avron Barr
Consultant, Institute for Defense Analyses
Chair, IEEE Learning Technology Standards Committee

Panelists
Shelly Blake-Plock
CEO, Yet Analytics, Inc., Chair of IEEE ICICLE

Nina Pasini Deibler
Technical Business Consultant, SERCO North America

Mitch Bonnett, Ph.D.
Chief, Distributed Learning Research, Standards, and Specifications Office, Directorate of Distributed Learning at Army University
Operational Level LVC Command and Control Training: Discovering Requirements for Combined Service Exercises with Multiple Domains and Coalition Partners

Moderator
Lieutenant Colonel Matt McKinney, USAF
Commander, 505 Combat Training Squadron

Panelists
Colonel Robert Epstein, USAF
Commander, Air Force Agency for Modeling and Simulation

Colonel Jeffrey Burdett, USAF
Director of Force Development, AF Strategic Integration Group

Lieutenant Colonel Merrick Green, USAF
Deputy Commander, Warrior Preparation Center

Mike Cosimo
Senior Intelligence Officer, 505 Command and Control Wing

Rick Ruppard
Models & Simulations Director, 505 Combat Training Squadron

This Panel provides an Air Force forum to discuss the challenges of planning and executing a multi-classification, multi-domain, multi-service, and multi-national theater level LVC exercise. Using the BLUE FLAG (BF)/JOINT WARFIGHTER ASSESSMENT (JWA) 2018 Exercise case study, the discussion will highlight the excessive planning requirements for and limitations to coalition integration into operational level exercises. This panel will highlight shortfalls in current models and simulations (M&S) support to operational level exercises executing multi-domain operations and 5th generation requirements. After examining these exercise gaps, this forum will develop proposed solutions using M&S DevOps and the BLUE FLAG 2.0 concept to define and discuss ways of incorporating new industry solutions into M&S frameworks.

These solutions will enhance exercise capabilities to rapidly meet Air Force training requirements that support U.S., joint and coalition readiness. The moderator will present the results of successful M&S DevOps to define solutions to meet the increasing demand for and address current limitations of operational level exercises and wargames.

Session Chair: Aaron Judy, NAWCTSD
This Special Event will provide the latest information from the Air Force regarding acquisition policy and upcoming training system acquisition actions. It will feature remarks by Colonel Hauboldt, the Air Force Program Executive Officer for Agile Combat Support, who will share his perspective on the current state of the Air Force acquisition process and ongoing initiatives, as they apply to the I/ITSEC community. This will be followed by a presentation by Col Carpenter, Senior Material Leader, Simulators Program Office. He will provide an update on Air Force simulator business opportunities, as a follow-on to the Simulation and Training Community Forum (STCF) held earlier this year.

The session will be two briefings followed by Q&A.

**Moderator**
Tony DalSasso  
Chief Engineer, Simulators Program Office

**Panelists**
Colonel Brady Hauboldt, USAF  
Program Executive Officer, Agile Combat Support Directorate  
Colonel Philip Carpenter, USAF  
Senior Materiel Leader, Simulators Program Office

**WEDNESDAY, 28 NOVEMBER**  
**0830 – 1000 AND**  
**1600 – 1730**  
**ROOM S330EF**

**U.S. Army PEO STRI TSIS Update**

**Session Chair:**  
Stuart Armstrong, Cole Engineering Services, Inc.

The U.S. Army Program Executive Office for Simulation, Training and Instrumentation (PEO STRI) Training and Simulation Industry Symposium (TSIS) updates at I/ITSEC will provide the latest information regarding the current and future PEO STRI business opportunities. This will be an update from the June 2018 TSIS and will include presentations from the Project Managers, International Program Office (IPO) and the Army Contracting Command-Orlando.

**Moderator**
Bob Wolfinger  
G5 Plans and Strategy, U.S. Army PEO STRI

**WEDNESDAY, 28 NOVEMBER • 0830 – 1000**

**0830 – 0845 Brigadier General Michael Sloane, USA**  
Program Executive Officer  
Simulation, Training, and Instrumentation

**0845 – 0910 Colonel Scott McLeod, USA**  
Project Manager Training Devices (PM TRADE)

**0910 – 0935 Colonel Scott McIntosh, USA**  
Joint Project Manager, Medical Modeling and Simulation (JPM MMS)

**0935 – 1000 Colonel Marcus Varnadore, USA**  
Project Manager Integrated Training Environment (PM ITE)

**WEDNESDAY, 28 NOVEMBER • 1600 – 1730**

**1600 – 1625 Colonel Rich Haggerty, USA**  
Project Manager Instrumentation, Targets, Threat Simulators and SOF Training Systems (PM ITTS)

**1625 – 1650 Dale Whittaker**  
International Programs Office (IPO)

**1650 – 1715 Lieutenant Colonel (P) Craig Fournier, USA**  
Project Lead Field Operations

**1715 – 1730 Joe Giunta**  
Army Contracting Command-Orlando

Each year at I/ITSEC, a panel of Navy captains and senior civilian leaders representing the Navy’s training acquisition organizations convenes to discuss the year’s highlights and share their strategic vision. I/ITSEC participants are welcome and encouraged to attend to hear about the state of the Navy’s Training Systems.

**Moderator**
Michael Merritt  
Deputy Technical Director, Naval Air Warfare Center Training Systems Division

**Panelists**
Captain Tim Hill, USN  
Commanding Officer, Naval Air Warfare Center Training Systems Division  

Captain Jason Lopez, USN  
Program Manager, Naval Aviation Training Systems (PMA-205)

Captain Samuel Pennington, USN  
Program Manager, Naval Surface Training Systems (PMS-339)

Fred Cunliffe  
Deputy Program Manager, Submarine Training Systems

Arnold Mallory  
Training Integration Manager, Space and Naval Warfare Systems Command
U.S. Navy

Sailor 2025 Ready, Relevant, Learning (RRL) Industry Day
Wednesday, 28 November • 1030 – 1200 • S330EF

U.S. Air Force

All of the following are open to TSA-III Contractors only.

MQ-9 Training System Acquisition
Tuesday, 27 November • 0800-0900
Air Force Service Room (S230C)

KC-10 Training System
Tuesday, 27 November • 0900-1030
Air Force Service Room (S230C)

B-52 Training System
Tuesday, 27 November • 1300-1500
Air Force Service Room (S230C)

C-5 Maintenance and Aircrew Training System
Wednesday, 28 November • 0900-1100
Air Force Service Room (S230C)

KC-135 Training System
Wednesday, 28 November • 1100-1200
Air Force Service Room (S230C)

Training System Acquisition - III Forum
Thursday, 29 November • 0900-1100
Air Force Service Room (S230C)

C-130J Maintenance and Aircrew Training System
Thursday, 29 November 2018, 1100-1200
Air Force Service Room (S230C)

C-17 Weapon System Trainer Procurement
Thursday, 29 November • 1300-1400
Air Force Service Room (S230C)

U.S. Army

Synthetic Training Environment (STE) Update to Industry
Monday, 26 November 2018 • 1300-1430
Room S330EF

The Persistent Cyber Training Environment (PCTE)
Monday, 26 November 2018 • 1500
Room S330EF
A call was made to the training, education, and simulation community of practice to demonstrate their game-changing innovations to key government decision makers and procurement officials at I/ITSEC 2018. The community submitted white papers describing their innovation, which was reviewed via a competitive process, where the best of the best were selected by a panel of government and industry members primarily from Team Orlando. The selected demonstrators employ technological innovations, re-define training and simulation processes, or create something entirely new that is going to change the way we train, simulate and educate. The showcased initiatives may be included in future acquisition efforts.

The Launch Pad Special Event targets both I/ITSEC attendees and select government acquisition stakeholders. Current acquisition programs as well as Science and Technology programs will be at I/ITSEC to assess Launch Pad technologies depending on the technology readiness levels of responses submitted. Speed to the market is a key acquisition principle. Launch Pad will provide an opportunity to highlight technology that may be appropriate for rapid prototyping/rapid fielding acquisition initiatives.

### Tuesday, 27 November – Session 1 (Augmented and Virtual Reality)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>Improving Aircraft Readiness with the Augmented Reality Maintenance Aid (ARMA)</td>
<td>AVATAR Partners, Inc.</td>
</tr>
<tr>
<td>1630</td>
<td>Immersive Pilot – Synthetic Teammate for Training Crew Coordination Competencies</td>
<td>The Boeing Company, SoarTech, and University of Central Florida</td>
</tr>
<tr>
<td>1700</td>
<td>VR Simulators for Air Force Pilot Training</td>
<td>SAIC in partnership with U.S. Army Aviation and Missile Research, Development, and Engineering Center (AMRDEC) and U.S. Air Force Air Education and Training Command (AETC)</td>
</tr>
</tbody>
</table>

### Wednesday, 28 November – Session 2 (Interoperability and LVC)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>0945</td>
<td>Utilizing ASI’s Transport Delay Test Kit to Measure Your Device’s Latency</td>
<td>Aero Simulation, Inc.</td>
</tr>
<tr>
<td>1015</td>
<td>Simulation Configuration and Environment Control (SimChEC) - Enhancing LVC Training Readiness</td>
<td>Trideum</td>
</tr>
<tr>
<td>1045</td>
<td>Challenge Accepted: Automating Cybersecurity Compliance with Cybernet Security Advisor</td>
<td>Cybernet Systems</td>
</tr>
</tbody>
</table>

### Wednesday, 28 November – Session 3 (Performance Measurement)

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600</td>
<td>SAIL3: The Sailor Adaptive Intelligent Life-Long Learning System</td>
<td>Aptima, Inc., in partnership with Adobe and MARI LLC</td>
</tr>
<tr>
<td>1630</td>
<td>Human Behavior: Next Generation Training</td>
<td>Thales AVS France</td>
</tr>
<tr>
<td>1700</td>
<td>Counter Bias Training Simulation (CBTsim): Revolutionizing Implicit Bias Training</td>
<td>Washington State University</td>
</tr>
</tbody>
</table>
International Pavilion
Room S310E-H
International attendees can meet and connect with counterparts from around the world. Limited private meeting space is available on a first-come, first-served basis to our international participants and may be scheduled at the International Pavilion’s Welcome Desk. Additional information about the many international activities throughout I/ITSEC is readily available in the International Pavilion.

International Registrants should register at the dedicated International Check-In station positioned near the Main Registration Desk in South Concourse. International Conference Attendees’ Meeting Bags will be available for pick-up at the Main Registration Desk this year. Other materials of interest for international attendees will be available in the International Pavilion.

International Pavilion Hours of Operation
Monday, 26 November 0800-1800
Tuesday, 27 November 1030-1800
Wednesday, 28 November 0800-1500
Thursday, 29 November 0800-1500

Program Notes of Special Interest for International Attendees
Papers
Explore your Program for the ✶ indicating Papers from International Authors.

Tutorials
Monday, 26 November • Room S310AB • 1245-1415
Road Map for Innovators in Cloud Based Modeling and Simulation (1821)

Monday, 26 November • Room S320C • 1245-1415
Live, Virtual and Constructive (LVC) Simulation Interoperability 101 (1832)

Monday, 26 November • Room S320F • 1430-1600
Team Training Environment Specification and Selection (1843)

Monday, 26 November • Room S320D • 1245-1415
Spoken-dialogue Interaction for Serious Games and Virtual Training Simulators (1847)
PAPERS

Best From Around the Globe
Tuesday, 27 November • 1400 – 1530 • Room S320D
Come hear the award winners from ITEC and MODSIM offer their outstanding presentations from two prestigious international conferences.

SIGNATURE EVENT
Simulation Enabling Coalition Collaboration
Wednesday, 28 November • 0830 – 1000 • Room S330BCD
(See page 20 for more information)
This impressive group of international panelists will provide an overview of case studies of collaboration that works! Pan- elists will provide an overview of the exercise or program, then discuss some of the obstacles, and conclude with successful strategies that overcame the challenges.

COMMUNITY OF INTEREST
The European Perspective on Blended Simulation
Wednesday, 28 November • 1400 – 1530 • Room S329
(See page 38 for more information)
This ETSA special event panel session will engage with the audience on the way ahead towards Blended Simulation and how to engage with ETSA and leverage its partnerships with NTSA, SISO, and industry.

FOCUS EVENT
Securing Cloud-Based Simulation Capabilities
Wednesday, 28 November • 1600 – 1730 • Room S320GH
(See page 33 for more information)
This special event is geared toward simulation engineers, project managers, and the M&S leadership to provide a true view on the current state and open issues of cybersecurity for cloud-based simulation and training environments.

SIGNATURE EVENT
International Innovations in the Classroom
Thursday, 29 November • 1030 – 1200 • Room S320GH
(See page 24 for more information)
During this special event, international leaders of education and training facilities will: discuss how they implement classroom changes; share stories of success and challenges; discuss best practices and lessons learned; and highlight strategies to avoid costly mistakes and reduce lengthy development timelines.

SPECIAL SESSION
International Future Authors Session
Wednesday, 28 November • 1600 – 1730 • Room S330A
SimTecT 2015 Best Paper Award winner Dr. Amanda Davies will lead this special session for our international attendees. Dr. Davies will review the process for successfully authoring an I/ITSEC Best Paper. In a casual forum setting, Dr. Davies will outline the Call for Abstracts, focusing on strategies for identifying the most appropriate subcommittee for your abstract. Learn how to effectively highlight your research during this informal exchange of ideas on successfully authoring a paper for I/ITSEC!

Topics include:
• Call for Abstracts (Subcommittee structure)
• Abstract Review and Acceptance (Role of the “bird dog”)
• Paper Review and Acceptance
• Presentation Development and Approval
Professional Development
Continuing Education Units (CEU) were established in 1970 to create a unit of measurement to quantify continuing education and training activities. CEUs apply to technical and educational settings such as I/ITSEC. The primary focus of I/ITSEC is to highlight innovative implementation of simulation and education technologies as tools to achieve cost efficient training and increased military readiness. Therefore, CEUs are offered for all Tutorials, Paper Sessions, and the Professional Development Workshops. CEUs are being sponsored and maintained by the University of Central Florida, Division of Continuing Education.

Why should I earn CEUs at I/ITSEC?
• Participation in the tutorials, papers and/or Professional Development Workshops for CEU credit reinforces your commitment to remain current in the evolving technologies relating to training and simulation.
• The CEU transcript indicates your active participation in the technical program of the conference to your employer.
• Previous attendees have indicated that CEUs have assisted them in securing approval to attend the conference.

What sessions are CEU Eligible?
• All Tutorials, Papers, and Professional Development Workshops are CEU eligible.
• Who may attend these events? Tutorials and Professional Development Workshops are open to everyone. The Paper Sessions are limited to registered conference attendees.
• Does attending mean I automatically receive CEU credits? No. You have to let us know, via your registration, that you are interested in the credits. There is no charge for Paid Conference Attendees. However, if you are in an unpaid category (i.e. Exhibitor Personnel) there is a $45 charge, payable during registration. You may also register separately for the CEUs if you missed this step in your conference registration process.

How do I receive CEUs at I/ITSEC?
1. Be sure you are appropriately registered (you can confirm when you check in onsite) for CEU credits.
2. Be sure to have your conference badge scanned by a conference volunteer at each session you attend. Attendance is recorded electronically and required for CEU credit.
3. Your CEU transcript will come to you via the University of Central Florida, Division of Continuing Education. Ten contact hours equate to one CEU credit.

Contact Todd Freece, todd.freece@ucf.edu or 407-882-0236 for additional information

Continuous Learning Points (CLPs)
The U.S. Department of Defense (DoD) acquisition workforce members are expected to earn Continuous Learning Points (CLPs) to stay current in leadership and functional acquisition skills that augment the minimum education, training and experience standards established for certification purposes within their acquisition career fields. It is each acquisition member’s responsibility to meet the goal of 40 CLPs each year and to meet the mandatory requirement of 80 CLPs every two years. Acquisition Professional Activities are allowed to count toward CLPs. CLPs are awarded in accordance with DoD-wide guidelines as augmented by Service-specific policies. I/ITSEC provides an excellent opportunity for the DoD acquisition workforce members to earn mandatory CLPs.

EARNING THE CMSP DESIGNATION WILL:
• Demonstrate expertise in the field of M&S to your employer and the larger M&S community
• Provide opportunities for professional advancement
Requirements include 3-8 years of work experience (depending on level of highest collegiate degree), 3 professional letters of reference, and successful completion of an online examination.

CMSP Applicants now have a choice between CMSP-Technical and CMSP-Management exams.

TO LEARN MORE ABOUT THE REQUIREMENTS AND TO APPLY, PLEASE VISIT WWW.SIMPROFESSIONAL.ORG OR CONTACT PATRICK ROWE AT PROWE@NDIA.ORG.
**TUTORIALS SCHEDULE**

<table>
<thead>
<tr>
<th>ROOM</th>
<th>TRACK/CHAIR</th>
<th>0830 – 1000</th>
<th>1245 – 1415</th>
<th>1430 – 1600</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320A</td>
<td>Track 1: Be Safe</td>
<td>2018 Update - Trade Compliance Challenges in</td>
<td>Risk Management Framework: Cybersecurity</td>
<td>Addressing the Challenges of Rigorous Simulation Validation (1851)</td>
</tr>
<tr>
<td></td>
<td>Charles Cohen</td>
<td>Training and Simulation Continue (1848)</td>
<td>Compliance for Modeling, Simulation, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Training Systems (1830)</td>
<td></td>
</tr>
<tr>
<td>S320B</td>
<td>Track 2: Do it</td>
<td>Introduction to DoD Modeling and Simulation</td>
<td>Design of Experiments: Applications in the</td>
<td>A Functional Approach to Distributed Network</td>
</tr>
<tr>
<td></td>
<td>Right</td>
<td>(1820)</td>
<td>Simulation Profession (1814)</td>
<td>Architectures for LVC (1829)</td>
</tr>
<tr>
<td></td>
<td>Jim Coolahan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S320C</td>
<td>Track 3: LVC</td>
<td>Cybersecurity Best Practices to Protect LVC</td>
<td>Live, Virtual and Constructive (LVC) Simulation</td>
<td>Planning and Execution for Large LVC Multi-</td>
</tr>
<tr>
<td></td>
<td>Roy Scrudder</td>
<td>Networks, Training and Simulation Systems (1817)</td>
<td>Interoperability 101 (1832)</td>
<td>Architecture Distributed Events (1822)</td>
</tr>
<tr>
<td>S320D</td>
<td>Track 4: Concepts</td>
<td>Simulation Conceptual Modeling (1809)</td>
<td>Spoken-dialogue Interaction for Serious Games</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&amp; Dialogue</td>
<td></td>
<td>and Virtual Training Simulators (1847)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sue Numrich</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S320E</td>
<td>Track 5:</td>
<td>Distributed Interactive Simulation (DIS) 101</td>
<td>Introduction to HLA (1825)</td>
<td>TENA/JMETC: Live-Virtual-Constructive Integration for Test and Training (1818)</td>
</tr>
<tr>
<td></td>
<td>Architectures</td>
<td>(1840)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Robert Lutz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S320F</td>
<td>Track 6: In</td>
<td>Introduction to Data Standards and Standards</td>
<td>A Complete Introduction to Medical Simulation</td>
<td>Team Training Environment Specification and</td>
</tr>
<tr>
<td></td>
<td>Practice</td>
<td>Organization in Modeling and Simulation (1838)</td>
<td>(1828)</td>
<td>Selection (1843)</td>
</tr>
<tr>
<td></td>
<td>Juliana Slye</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tutorials</td>
<td>Modeling &amp; Simulation (1849)</td>
<td>Entertainment Industry (1811)</td>
<td>Optimize Your Productivity with Learning</td>
</tr>
<tr>
<td></td>
<td>Lee Lacy</td>
<td></td>
<td></td>
<td>Science, Media, and Technology (1845)</td>
</tr>
<tr>
<td>S310A</td>
<td>Track 8:</td>
<td>Securing Distributed LVC Simulations with Data</td>
<td>Road Map for Innovators in Cloud-Based Modeling</td>
<td>Fundamentals of Modeling and Simulation (1819)</td>
</tr>
<tr>
<td></td>
<td>Fundamentals</td>
<td>Distribution Service (DDS) (1826)</td>
<td>and Simulation (1821)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bob Richbourg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S310C</td>
<td>Track 9:</td>
<td>3D Printing/Manufacturing Process Primer for</td>
<td>The Truth About Blockchains and How They Apply</td>
<td>Machines Crave Big Data (1850)</td>
</tr>
<tr>
<td></td>
<td>Innovations</td>
<td>the M&amp;S Practitioner (1810)</td>
<td>to Training (1833)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jim Wall</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Despite generally positive statements from the U.S. Government concerning encouragement of international trade, 2018 continued to present challenges in navigating the export requirements associated with trade in the simulation and training industry. This tutorial will focus on understanding the application of the ITAR and the EAR as well as the potential changes associated with changing national security and foreign policy priorities, including continued ambiguity with the definition of “defense services” in the ITAR. The tutorial will examine the scope of the U.S. export laws, how the U.S. Government applies them to the simulation industry, including controls on software, hardware, services and activities at trade shows such as I/ITSEC, as well as discuss examples of products and services, and associated licensing strategies, in this shifting regulatory environment. New for this year, we will walk through a practical exercise to apply the “order of review” and determine the export jurisdiction and classification of a relevant product.

**Presenter**

**Darren P. Riley, J.D.** is a founding member and partner of Huffman Riley PLLC. Mr. Riley concentrates his practice advising U.S. and foreign clients concerning all aspects of the U.S. export control laws, including the International Traffic in Arms Regulations (“ITAR”); Export Administration Regulations (“EAR”); and the Office of Foreign Assets Control (“OFAC”) regulations. Mr. Riley has extensive experience assisting high technology, defense industry and other clients to navigate applicable U.S. export statutes and regulations.

This tutorial will describe the fundamental technologies, terms and concepts associated with Modeling and Simulation (M&S); and describe M&S development and application in the Department of Defense (DoD). It will discuss various aspects of M&S use and interoperability, presenting their role in enabling DoD functions and enhancing reuse.

**Presenter**

**John Daly** is a senior engineer with Booz Allen Hamilton. He currently leads a team providing modeling and simulation technical and policy support to the Defense Modeling and Simulation Coordination Office. He has worked with OSD, Joint Staff, COCOM, Service, and DISA clients in the development of simulation systems for training, operational decision support, visualization of complex phenomena, test and evaluation, and performing acquisition functions. John also worked as a research engineer at the Naval Research Laboratory; specializing in advanced simulation-based C2 training, WMD analysis applications, and EW technologies.
Cyber adversaries have a vast array or tools and a keen sense of when to use each one for maximum effect. You may not be able to stop all attacks but, you can minimize risk and impact of threats by constraining adversaries’ operational space. Given LVC’s inherently connected nature and the increasing dependence on commercial technologies, cybersecurity is critical to training and simulation.

Network flow data provides a wealth of behavioral information that is useful in understanding normal operation and detecting abnormalities. Cybersecurity is driven by a continuum of what actions can be taken before an attack occurs, during the attack to ensure continued operations while mitigation takes place, and after an attack to detect and defend against threats occurring in the future.

The ability to collect flow data and contextual information about users, applications and devices enables the network to serve as a powerful security resource. New technology and techniques allow today’s network infrastructure to leverage embedded security capabilities to enable the entire network to serve as an invaluable security resource. Integration and communication between network control and security are absolutely essential.

Presenters
AARON WARNER is a Systems Engineer at Cisco Systems, Inc. He works with the U.S. Army and Joint DOD Organizations to develop secure enterprise architectures. He served in the Army for 12 years. Aaron holds multiple industry leading certifications including CISSP, OSCP and multiple CCIE’s.

LEO LEBEL is a senior Cybersecurity Engineer for Cisco Systems. Leo is a retired Marine Corps warrant officer and holds a bachelor’s degree in Information Technology and several industry Cybersecurity certifications.

KURT KOLLMANSBERGER is a systems engineer at Cisco Systems, Inc. He works with all services to identify requirements, provide technical guidance on the future direction of networking technologies and assists in implementation, testing and validation of proposed solutions. He served almost 14 years in the U.S. Air Force as a communications and network engineer and nearly 20 years at Cisco.

JOE BEEL is a strategic programs manager at Cisco Systems, Inc. He develops and implements strategies to support the DoD. He is a retired naval officer who served as a naval aviator and acquisition professional serving in command in both NAVAIR and SPAWAR.

Simulation conceptual modeling is a critical step in simulation development frequently overlooked in the rush to demonstrate program progress. A simulation conceptual model is an abstraction from either the existing or a notional physical world that serves as a frame of reference for further simulation development by documenting simulation-independent views of important entities and their key actions and interactions. A simulation conceptual model describes what the simulation will represent, the assumptions limiting those representations, and other capabilities needed to satisfy the stakeholder’s requirements. It bridges between these requirements, and simulation design.

This tutorial will present the theory and application of simulation conceptual modeling as documented during the research done by the NATO MSG 058. In addition, Use Cases that have been drawn from previous conference presentations will be presented to illustrate how conceptual modeling has been performed. Additional work is necessary to mature the state-of-the-art of simulation conceptual modeling before a recommended practices guide could be standardized. This tutorial has been created to continue the maturation of the simulation conceptual modeling best practices.

Presenter
JAKE BORAH is the Co-owner of Borah Enterprises LLC. He is a Senior Simulations/Learning Architect for the US Army PM ITTS Persistent Cyber Training Environment. Jake teaches Dual Enrollment Aeronautical Science courses for Embry-Riddle Aeronautical University. He has frequently supported US and Canadian government sponsored military simulation projects because of his mastery of the M&S technology, and expertise in High Level Architecture federation development. Jake has a BS from the United States Air Force Academy and a Master of Aeronautical Science degree from Embry-Riddle Aeronautical University.
The Distributed Interactive Simulation (DIS) protocol is a well-established IEEE standard for packet-level exchange of state information between entities in military simulations. DIS facilitates simulation interoperability through a consistent over-the-wire format for information, widely agreed upon constant enumeration values, and community-consensus semantics.

Anyone can obtain the IEEE-1278 standard and implement their own compliant, interoperable, DIS application. A large variety of tools and codebases simplify this effort, and enable multi-architecture integration of simulations using the DIS stand baseline. DIS focus begins with real-time, physics-based, entity-scale simulations, providing state update and interaction mechanisms which can scale to large virtual environments.

This tutorial is a “DIS 101” introduction for software implementers and an introduction to the DIS philosophy for simulation systems integrators. Examples are provided using the open-source Open-DIS library for DIS v7 support, available in multiple programming languages. Ongoing work is included in WebRTC browser streaming, experimental implementation of DIS v8, plus Web-based implementations using 2D maps and X3D Graphics.

Presentation Details

**Presenters**

DON BRUTZMAN, Ph.D., is a computer scientist and Associate Professor of Applied Science working in the Undersea Warfare Academic Group and Information Sciences Department at the Naval Postgraduate School (NPS) in Monterey California. He has worked with DIS standard since 1993 and is co-designer of Open-DIS library and X3D DIS Component. He is cochair for the Extensible 3D (X3D) Graphics Working Group for the non-profit Web3D Consortium. Building on the open X3D International Standard, group efforts are working to make 3D printing and 3D scanning compatible with CAD, modeling, simulation and the Web. He is lead author of the book X3D Graphics for Web Authors, published April 2007 by Morgan Kaufmann. He is a retired naval submarine officer and principal investigator for the Network-Optional Warfare (NOW) project. His research interests include underwater robotics, real-time 3D computer graphics, high-performance networking, and artificial intelligence for ethical autonomy.

DON McGRGOR is a Research Associate at the Naval Postgraduate School. He has been the lead programmer on the public, open source Distributed Interactive Simulation (DIS) Open-DIS project. Open-DIS has implementations of DIS in Java, C++, Objective-C, C#, Python, and JavaScript. He engages in research topics including Live, Virtual, Constructive (LVC) simulation, web-based applications, and cloud-based deployment.

Simulation programs and vendors are increasingly adopting and promoting their support for data standards. Data standards have the potential to normalize and increase compatibility between simulation systems and programs. Each standard is adopted and maintained by their own “Standards Body” or “Standards Organization”, and many types of these entities exist. Not only are there many standards organizations, there are many different types of standards, some of which have required and optional components. Additionally, specifications, including those that are ad hoc, or de facto are often incorrectly referred to as standards.

Each organization has their own membership levels, and their own processes for adopting, maintaining, publishing, and changing the standards.

**Presenters**

KEVIN BENTLEY is the founder and president of Cognitics, Inc. He has over 25 years of experience in architecting software in Geographical Information Systems (GIS), simulation, and games. His expertise includes terrain modeling and geospatial data analysis. He is the chief architect and lead engineer for research and development at Cognitics. He is a member and active participant in geospatial and simulation standards working groups within the Open Geospatial Consortium.

RONALD MOORE is currently the Chief Architect on U.S. Army Synthetic Environment (SE) Core program. He has over 35 years of experience in the modeling, simulation and training industry with expertise in software development, computer graphics, computer image generation, geospatial terrain database production, sound simulation, streaming audio and video, and PC and console game development.

JAY FREEMAN is the Synthetic Environment Technical Authority for CAE USA. He serves as the CAE’s Technical Lead for Joint Staff J7 Environmental Development Division’s development of a Terrain Generation Service and USOOCM Geospatial Services where both capabilities leverage OGC CDB. Mr. Freeman previously served as the System and Software Architect for SE Core Database and Virtual Environment Development (DVED) program. Prior to working for CAE USA, Mr. Freeman has worked at TERREX, Lockheed Martin, and Intergraph.
There are increasing requirements for automated reasoning abilities in modeling and simulation, as well as in battlefield systems. Cognitive capabilities are also migrating from simulation to real-world systems. Cognitive systems are a maturing computational approach to intelligence that can provide robust, scalable, and adaptive decision making. This tutorial provides an introduction to cognitive systems, concentrating on symbolic computation and high-level design of human-like reasoning systems. We draw examples and comparisons from existing systems, focusing on tradeoffs between cognitive and non-cognitive approaches. The tutorial content does not require any specialized knowledge, but some experience with software engineering or behavior modeling can be helpful.

Attendees will learn to recognize problems that suggest cognitively based solutions, and they will be better able to assess risks, costs, and benefits of different approaches. This tutorial is targeted toward developers who are interested in cognitive approaches to software engineering, as well as customers who have problems that may be amenable to a cognitive approach.

Presenters
RANDOLPH M. JONES, Ph.D., Senior Artificial Intelligence Engineer and co-founder at SoarTech, has developed cognitive systems as principal investigator for a variety of advanced R&D projects funded by ONR, ARI, AFRL, DARPA and other DOD agencies. He has previously held academic positions at Colby College, University of Michigan, University of Pittsburgh, and Carnegie Mellon University. His areas of research include computational models of human learning and problem solving, executable psychological models, and full-spectrum intelligent behavior models. He earned a B.S. in Mathematics and Computer Science at UCLA, and MS (1987) and Ph.D. (1989) degrees from the Department of Information and Computer Science at the University of California, Irvine.

DYLAN SCHMORROW, Ph.D., Chief Scientist at SoarTech, leads the advancement of research and technology tracks to build intelligent systems for defense, government, and commercial applications that emulate human decision making in order to make people more prepared, more informed, and more capable. He serves as a Potomac Institute for Policy Studies Senior Fellow, Editor of the Theoretical Issues in Ergonomics Journal, and Technical Advisor for the Applied Human Factors and Ergonomics Conference Series. He is one of the nation’s leading experts on national security research technology and policy related to information technology, medical research and human performance applications. Past service includes OSD, DARPA, NAWC, NRL, ONR, Naval Postgraduate School, and Executive Assistant to the Chief of Naval Research. He holds a Ph.D. in Experimental Psychology from Western Michigan University, as well as M.S. degrees in Psychology and Philosophy. He retired from the U.S. Navy as a Captain in 2013, after 20 years of service.

Integrating simulation and training systems is hard. Legacy systems use differing standards for data, voice, and video. Modern architectures demand the use of cloud-based and distributed assets. New security requirements challenge integrators to become experts in information assurance. While these challenges drive integration time up, meeting today’s emerging threats requires training environments that can be quickly assembled and reconfigured from ready-made components. Attend this tutorial to learn how Data Distribution Service (DDS) eases integration while providing NSA-tested security in real-time systems.

This tutorial introduces the DDS and DDS Secure standards. You will learn how to use DDS Secure to secure real-world Hardware-In-Loop (HIL) systems that already communicate over DDS to distributed Live, Virtual, Constructive (LVC) Simulations. The tutorial will describe how to integrate DDS with existing simulation-based standards such as HLA and DIS while adding robust security. Finally, the tutorial will provide some recent experiences of the use of DDS and an overview of deployed systems using DDS today. This tutorial is intended for all audiences; however, some familiarity with basic principles of distributed computing is recommended.

Presenter
ANDRE ODERMATT is a Technical Marketing Engineer for Real-Time Innovations (RTI). He received his B.S. in Electrical Engineering from the Lucerne School of Engineering and Architecture, and Diploma of advanced studies in software engineering from the Bern University of Applied Science. Andre has over 20 years of experience in embedded software development and communication software. Prior to RTI, he worked on Telecom protocols at Alcatel where he developed test systems for Asynchronous Transfer mode systems and Trillium Digital Systems where he was responsible for the SS7 product line. Andre is also involved in the FACE consortium where he participates in the IWS working group, and works on multiple integration projects for the TIM and BbTS events.
3D Printing, sometimes referred to as Additive Manufacturing (AM), is a process used to construct a solid object where material is joined (additively) under the control of a computer, layer-by-layer, to form the desired part or component. Over the past 40 years, we have witnessed a renaissance in the types of processes available for AM, and simultaneously, accelerated advancements in 3D printer technologies and base material alternatives. As a result, AM has transformed the manner in which we approach the practice of Design for Manufacturability, from conceptual modeling, to preliminary design, to final (printed) prototype.

In this Tutorial, we present a primer on the essentials of AM. Topics will include the history/origins of 3D printing, current applications, a detailed description of the AM process, associated technical and logistic challenges, and future avenues of application and research. Note that this presentation is offered with M&S subject matter experts in mind. Accordingly, the Tutorial will culminate with an offering of five practical and diverse Case Studies which will quantify how 3D Printing adds tangible benefit to Training for a variety of domain experts (academic, industry, military) who utilize models and simulations in their respective careers (e.g., education, manufacturing, aerospace, health care, medicine).

**Presenter**

KEVIN F. HULME, Ph.D., received his Ph.D. from the Department of Mechanical and Aerospace Engineering at the University at Buffalo (UB). He currently oversees the UB Digital Manufacturing Laboratory, with technical areas of concentration including: 3D Printing/Additive Manufacturing, Computer-aided Design and Engineering, Design for Additive Manufacturing, and experiential learning/STEM. In November of 2015, Dr. Hulme became a Certified Modeling and Simulation Professional (CMSP).

**Co-authors**

HAILEY KILIAN received her B.S. from the Department of Biomedical Engineering at UB, and is a Graduate Associate at the UB Digital Manufacturing Laboratory. ASHLEY SEYMOUR is pursuing her B.S. in Accounting and Business Management at UB, and is an Undergraduate Associate at the UB Digital Manufacturing Laboratory. CONNIE-ROSE DEANE is pursuing her B.S. in Mechanical Engineering at UB, and is an Undergraduate Associate at the UB Digital Manufacturing Laboratory. MAGGIE LIU received her B.A. in the Department of Linguistics and the Department of Communicative Disorders and Sciences at UB, and is a Graduate Associate at the UB Digital Manufacturing Laboratory. SOURABH SAPTARSHI received his M.S. from the Department of Industrial and Systems Engineering at UB and is a Development Engineer at Sumitomo Rubber, USA.

**Presenters**

DONALD LAWSON is Cybernet’s Vice President of Cybersecurity and Training Systems with over 15 years of combined experience in software engineering, system integration/development, and Cybersecurity compliance. Mr. Lawson has a Bachelor’s degree in Computer Science from the University of Central Florida along with a CISSP and Security+ certification. He has been instrumental in obtaining numerous Modeling, Simulation, & Training device Authorizations and continues to propel the current state of Cybersecurity accreditation forward by embracing the NIST Risk Management Framework (RMF) and how it was designed to relieve excessive regulation and costs. An area of focus will be on understanding the requirements for the Cybersecurity RMF and how it applies to modeling, simulation, and training systems. We will detail the reasons for Cybersecurity compliance, the key concepts, and why it is critical for military, government, and even civilian applications.

The tutorial will explain the general process of approaching RMF compliance and how the Cybersecurity implementation plans are created and revised in the requirements gathering phases of a project. Using these RMF requirements and concepts, the tutorial will then take it a step further and analyze the documentation deliverables associated with RMF, their purposes, and finally the government processes necessary to submit a system for an Authority-to-Operate decision. Attendees will gain a strong foundational understanding of the Cybersecurity Risk Management Framework and how to apply it in their own programs.

CHARLES COHEN is Cybernet’s Chief Technology Officer, and has been a technical lead and project manager in the fields of modeling and simulation, cybersecurity, image processing, sensors, robotics, human-computer interaction, and artificial intelligence for over a decade. At Cybernet, he has led projects for the United States Department of Defense (Army, Air Force, and Navy), National Aeronautics and Space Administration, Homeland Security, and other government agencies. Dr. Cohen also currently serves on the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC) Tutorial Board. He holds a Ph.D. in Electrical Engineering.
Design of Experiments (DOE) provides new types of information to modeling and simulation developers and users. DOE is used to calculate relatively accurate models of a system quickly, identify the most significant inputs (factors) that affect the outputs (responses), find optimal solutions, and calculate settings to meet target values. The models of the systems are sets of equations that determine the relationships between the responses and the factors. These models can be used to characterize (calculate) the response values anywhere in the region modeled. The benefits of using DOE include a thorough upfront analysis process; a wide variety of possible designs that can be used; a straightforward way to estimate needed sample sizes; development of equations that can be tuned to optimize or otherwise hit targeted values; and a wide array of use cases.

The use cases for DOE include simulation, training, education, test and evaluation, systems engineering, consumer product design, quality improvement, cybersecurity, model validation, and human factors design information. All of these use areas will be mentioned in the briefing and several will be included in the example case studies in this tutorial.

This tutorial will discuss the upfront analysis steps for the DOE process, key benefits of using DOE, and current use cases. These use cases include the development of functional models of systems or processes in order to characterize how the systems or processes perform within the region modeled. The tutorial will then provide examples to illustrate how DOE models are developed and used to define a relationship between factors and responses for the purpose of analysis, tradespace studies, evaluation, and optimization. Response surface graphs will be used to illustrate how human-systems integration issues can be detected. Use cases such as Model Based Systems Engineering, education, training, cybersecurity, and validation of models will be mentioned. There are no prerequisites for mathematical or statistical knowledge for this tutorial.

**Presenter**

STEVEN GORDON, Ph.D., is the Orlando Field Office Manager and a Principal Research Engineer for Georgia Tech Research Institute. He retired from the Air Force in 1998 and served as the first Technical Director for the Air Force Agency for Modeling and Simulation. Dr. Gordon has a Bachelor’s Degree in Mathematics (Marymount); Master’s Degrees in Education (Vanderbilt), Industrial Engineering/Operations Research (Purdue), and Business (University of Florida); and a Ph.D. in Aero and Astro Engineering (Purdue).
Recent advances in deep learning have opened people’s minds to new levels of interaction within many Virtual Training Environments (VTEs)/Serious Games. Unfortunately, allowing users to fully interact through speech is a challenge for computers, particularly when the task is unconstrained or performed under adverse conditions. Speech is therefore often neglected as a modality, in spite of its naturalness.

Furthermore, user-based evaluations of speech interfaces are intrinsically difficult. The recent AI revolution brings hope that, despite these shortcomings, there will at least be some areas of R&D that will lead to real improvements in both the design and implementation of spoken interactions in training systems. This tutorial will explain: how deep learning has transformed dialogue/chat systems; the components of a typical dialogue system; the challenges in enabling spoken dialogue as a modality for hands-free interaction; the major usability issues for AI/dialogue interaction within VTEs/Serious games; opportunities for researchers and developers to enhance system interactivity through AI/dialogue; and how to enable dialogue interaction within immersive, mixed-reality environments.

The High-Level Architecture (HLA) is the leading international standard for simulation interoperability. It originated in the defense communities but is increasingly used in other domains. This tutorial gives an introduction to the HLA standard. It describes the requirements for interoperability, flexibility, composability and reuse and how HLA meets them. It also describes the new features of the most recent version: HLA Evolved (IEEE-1516-2010) and the upcoming HLA version (HLA 4). Finally, it provides some recent experiences of the use of HLA in NATO M&S groups as well as an overview of recent evolution of Federation Object Models for military platform simulation. This tutorial is intended for all audiences; however, some familiarity with basic principles of distributed computing is recommended.

Presenters

BJÖRN MÖLLER is the Vice President and Co-founder of Pitch Technologies, the leading supplier of tools for HLA and other simulation standards. He received an M.S. in computer science and technology after studying at Linköping University and Imperial College, London. Mr. Möller has more than thirty years of experience in high-tech R&D companies, with an international profile in modeling and simulation. His experience includes positions in SISO and IEEE standards development groups such as vice chair for HLA, chair of the Real-time Platform Reference FOM and chair of the Space Reference FOM. Mr. Möller also served as secretary in the NATO MSG-080 group for Security in Collective Mission Training.

ROBERT LUTZ is a principal staff scientist at The Johns Hopkins University Applied Physics Laboratory in Laurel, MD. His background includes 38 years of practical experience in the development, use, and management of models and simulations across all phases of the DoD systems acquisition process. He currently serves as the Airspace Integration Modeling and Simulation (M&S) lead for the Navy’s Triton program and as an advisor on several LVC development projects. Mr. Lutz also served as the technical editor for IEEE 1516.2 (HLA Object Model Template) and as the product development group (PDG) chair for IEEE 1730 (DSEEP). Mr. Lutz is presently the chair of the Simulation Interoperability Standards Organization (SISO) Board of Directors, serves on the Tutorial Board and Fellows Committee at the Interservice/Industry Training, Simulation and Education Conference (I/ITSEC), and is a guest lecturer on M&S-related topics.
Simulation tools and techniques have been a part of acquiring medical knowledge and skills for over 4,000 years, with more scientific approaches emerging hand-in-hand with the European Renaissance. These devices were initially used as a means to convey homeopathic experience and the knowledge gained through cadaveric dissection. More recently, the devices have been computerized and have been supplemented with teaching methods targeted at modern patient-based practices and team-based learning. This tutorial is a comprehensive overview of medical simulation to include its history, proposed system taxonomies, devices and techniques for representing external and internal anatomy and physiology for medical interventions, the role of team training, and criteria for current simulation accreditation programs. The tutorial concludes with a predictive view into the future of the devices and practices as outlined by forward thinkers in the field. This includes an understanding of the financial, cultural, and scientific forces which both aid and restrain the application of simulation in medicine.

Presenters
ROGER SMITH, Ph.D., is currently the Chief Technology Officer (CTO) for the Florida Hospital Nicholson Center where he is responsible for establishing technology strategy. He previously served as the CTO for the U.S. Army PEO STRI. He holds a Ph.D. in Computer Science, a Doctorate in Management, an M.S. in Statistics, and a B.S. in Applied Mathematics. He has published 3 professional textbooks on simulation, 12 book chapters, and over 100 papers.

DANIELLE JULIAN, M.S., is a Research Scientist at Florida Hospital’s Nicholson Center. Her current focus rests on robotic surgery simulation and effective surgeon training. She is a certified instructor for surgical robotics courses delivered to surgeons and OR staff members. She is currently a Ph.D. student in Modeling and Simulation at the University of Central Florida where she previously earned an M.S. in Modeling and Simulation and a B.S. in Psychology.

KAREN KELLY, MSN, RN, CHSE is Senior Simulation Learning Strategist for Florida Hospital. She plans, develops and implements Medical Simulation education and training for the hospital system which incorporates all campuses, service lines and departments and associated programs/partners including Graduate Medical Education and the Adventist University of Health Sciences. She is an intensive care nurse by training.

SUMY MICHAEL, MSN, ARNP, CCRN, CHSE is a Program Manager for Clinical Learning at Orlando Health system. She has spent the last 20 years serving various roles in healthcare, as critical care nurse, Advance Registered Nurse Practitioner, and simulation and healthcare educator. She has been part of development of continuing education courses “Principles of Simulation in Healthcare” and “Enhancing Patient Safety through Team Training”.

The discipline of Modeling & Simulation (M&S) has long been associated with classical application domains, from military/defense, to medicine, to transportation. In more recent times, emergent M&S technologies have been incorporated in the entertainment and theme park industry. With six South Florida amusement parks ranking in the top 15 worldwide in annual attendance, and with a direct economic impact of more than $55 billion annually, this evolutionary and engaging application sector has strong relevance to Orlando/South Florida, and has long-standing association to the I/ITSEC community, specifically.

In this “Special Topics” M&S Fundamentals Tutorial, we will review and reinforce how modeling methods and associated mechanisms for implementing simulations have been applied, with great impact, within the theme park industry over the last quarter century. Following a targeted review of essential M&S “building blocks” within amusement ride design, a series of Case Studies are offered that showcase, by example, the highly multidisciplinary engineering methods that underlie “The Science of Thrills”. This application-oriented presentation will offer a high engagement factor for learners who are new to M&S, will offer a pervasive regional theme (while conforming to the prevailing 2018 I/ITSEC Conference Themes), and will serve as a practical primer for CMSP (technical) certification.

Presenter
KEVIN F. HULME, Ph.D., received his Ph.D. from the Department of Mechanical and Aerospace Engineering at the University at Buffalo (UB). He currently directs the UB School of Engineering Motion Simulation Laboratory, with technical areas of concentration including: Game-based approaches for applied Modeling & Simulation, human factors research in autonomous and connected vehicles, M&S approaches in STEM and experiential learning, and assessment of distractions on driver performance. In November of 2015, Dr. Hulme became a Certified Modeling and Simulation Professional (CMSP).

Co-authors
EMMANUEL TORRES GIL received his B.S. in Mechanical Engineering at UB, is now pursuing a Ph.D. at Purdue University, and plans to specialize in methods for turbulent reacting flows, and his career goals include obtaining a research position at NASA, The Air Force, or Department of Defense. CHRISTOPHER HENDRICK received a dual B.S. in Mechanical and Aerospace Engineering at UB. He is now pursuing his M.S. at The Pennsylvania State University, specializing in dynamic systems and controls, and he aspires to join industry in a research position studying autonomous systems. SHATHUSHAN VASHANGARAN received his B.S. in Mechanical Engineering at UB, and he will now pursue his M.S. at the same institution to specialize in Robotics and Control, and develop innovative design solutions for autonomous and unmanned aerial vehicles.
Cloud technologies continue to disrupt and change the business model for information technology and computing across industry and government. However, modeling and simulation is one area that has been slow to respond to the availability of cloud technologies. Some of the barriers to migration of M&S to the cloud include security and policy within military and government organizations, the low suitability of existing M&S systems for cloud deployment, access to cloud resources, execution speed, the cost of developing and integrating systems for the cloud, and the challenge of establishing a business model for on-demand cloud-based M&S. Innovators and early adopters in the M&S community are pecking away at these barriers in a number of government and industry applications. This tutorial pulls from these early implementations to help other potential adopters understand the road to the cloud.

This tutorial leverages work by the Institute for Defense Analysis and NATO Modeling and Simulation Groups to build a taxonomy for Cloud-Based Modeling and Simulation (CBMS). It describes M&S capabilities that could be offered in the cloud, and it also describes different levels and types of cloud adoption. It summarizes several CBMS implementations and categorizes them against that taxonomy. M&S owners who want to deploy capabilities to the cloud will leave with lessons from early innovators and a road map to get them started.

Presenters

ROBERT KEWLEY, Ph.D., has served as the head of the West Point Department of Systems Engineering and as the Chief Systems Engineer for the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. He has performed extensive Army studies using simulation. His research background is in the development of simulation methodologies and engineering processes to support the application of simulation to complex system of systems problems. He has served as the co-chair of the Simulation Interoperability Standards Organization’s CBMS Study Group. He also was lead author for NATO’s Modelling and Simulation as a Service Engineering Process.

ROBERT SIGFRIED, Ph.D., is senior consultant for IT and Modeling & Simulation projects and CEO of aditerna GmbH. Within several projects from the German Federal Office of Defense Technology and Procurement, Robert has worked and is currently working on topics like documentation guidelines, model management, distributed simulation test beds and process models. Robert led the activities of NATO Modeling and Simulation Group-136 (MSG-136), Modeling and Simulation as a Service (MSaaS) and its follow-on effort MSG-164. This group’s efforts received the NATO Scientific Achievement Award. He is also a member of the Executive Committee of the Simulation Interoperability Standards Organization (SISO).

The buzz about blockchains across industries is at an all-time high. The volatility of the financial market, potential for securely managing data, and potential to modernize many fields has made public perception of the underlying technology clouded. The first step to applying the technology is gaining an understanding of its capabilities and limitations.

Blockchain builds on many known technologies such as distributed databases, encryption, and wide area networking to enable new methods of capturing transactional data in an immutable fashion. Across industries this technology is making an impact, but it is not always clear if it is necessary or worthwhile. Those attending this tutorial will learn about blockchain technology, the underlying theories that support its functionality, and use cases related to the DoD.

Presenters

ROBBY ROBSON, Ph.D., is co-founder and CEO of Eduworks Corporation, a consultant for the Institute for Defense Analyses, a member of the IEEE Standards Association Standards Board, and principal investigator on the Competency and Skills System (CaSS) project. During his career in academia and industry he has made contributions to pure and applied mathematics, educational theory and practice, interoperability standards, and learning technology. He has supported multiple DoD research efforts that have applied technologies such as machine learning and natural language processing with the goal of improving training effectiveness. His interest in blockchain stems from his role in the CaSS project and his work on the IEEE future directions committee. Robby’s doctorate is in mathematics from Stanford.

MIKE HERNANDEZ is a U.S. Army veteran and systems engineer who has contributed to many innovative efforts to improve the training technologies available to the defense and security communities. He holds a bachelor’s degree in Electrical Engineering from Florida Atlantic University. He is currently supporting the Advanced Distributed Learning (ADL) Initiative as a Systems Engineering and Technical Assistance contractor providing technical oversight of multiple programs within the ADL portfolio, including the Competency and Skills System (CASS) project and its associated blockchain effort. Through his previous work with the eSailor project, Sailor 2025, and intelligent tutors, he has gained valuable experience and a practical perspective on examining a new technology, such as blockchains, and assessing what is required for them to be integrated into a DoD environment. He views this tutorial as a way to bring a better understanding of blockchain technologies to I/ITSEC community and to further the conversation on how the community perceives blockchains as an emerging capability for training.
The process of validation is essential to the credible and reliable use of any simulation. Although Department of Defense policy and guidance increasingly emphasizes the importance of rigorous validation founded in the application of strong statistical analysis, implementation of rigorous validation continues to face multiple challenges. This tutorial addresses several of those challenges:

- How to identify, collect, and combine validation referent data (what the simulation results will be compared to)
- How to identify the simulation measures and metrics to use as the basis of comparison (the aspects of the results that will be compared to the referent)
- Methods for performing the results/referent comparison
- How to quantify risk and residual uncertainty associate with the application of the simulation

The tutorial will enhance the learning experience by incorporating lessons learned derived from the many VV&A applications with which the authors have been involved.

Presenters
SIMONE M. YOUNGBLOOD is a member of the Johns Hopkins Applied Physics Laboratory’s Principal Professional Staff. Leveraging an extensive background in simulation development and credibility assessment, Simone Youngblood has served as the DoD VV&A focal point for the past 22 years. Ms. Youngblood was the editor of the DoD VV&A Recommended Practices Guide and chaired the development of several VV&A related standards including: IEEE Standard 1278.4, IEEE Standard 1516.4 and MIL-STD 3022. Ms. Youngblood has served as the V&V and/or Accreditation agent for numerous M&S efforts that span a broad organizational spectrum to include: DTRA, DNDO, NAVAIR and PEO IWS 1. Ms. Youngblood has a B.A. in mathematics as well as B.S. and M.S. degrees in computer science.

MIKEL D. PETTY, Ph.D., is a senior scientist for modeling and simulation at the University of Alabama in Huntsville’s Information Technology and Systems Center and an associate professor of computer science. Prior to joining UAH, he was chief scientist at Old Dominion University’s Virginia Modeling, Analysis, and Simulation Center and assistant director at the University of Central Florida’s Institute for Simulation and Training. He received a Ph.D. in Computer Science from the University of Central Florida in 1997. Dr. Petty has published over 200 research papers and been awarded over $16 million in research funding. He has served on both National Research Council and National Science Foundation committees on modeling and simulation, is a Certified Modeling and Simulation Professional, and is editor-in-chief of the journal SIMULATION: Transactions of the Society for Modeling and Simulation International.

Recent innovations within the networking industry are converging to greatly enhance the distributed simulation environment setting a foundation for the LVC objective state. Future network architectures leverage hardware innovations that include converged compute, storage, and transport management functions and device virtualization that allows a single device to perform multiple roles.

These network architectures and their operating practices create operational effects at a lower capital and operating cost. Resource utilization can be dynamically adjusted to meet demand. During a simulation sequence, surges can be distributed to ensure the quality of service required to achieve the realism demanded as hundreds, thousands, or tens of thousands of entities interact.

In effect, the LVC network environment will resemble a distributed, high-performance computing center. Multiple networks will join together on a session basis to support high intensity, many-to-many interactions on multiple, segregated classification planes. In this environment, the moment-by-moment integrity of the architecture and application operations through is a must. Both are possible with visibility functions that continuously run checks and balances verifying the veracity of the simulation.

Presenters
CHUCK LOUISELL, Ph.D., is a strategic programs manager at Cisco Systems, Inc. He implements strategies to support the defense sector. Chuck served as a USAF Weapons School instructor and command positions. At Cisco, Chuck works across all data center and cloud product lines.

GRIMTH ABTEMARIAM is a business technology manager at Cisco Systems, Inc. She implements strategies to support the defense sector. Previously, Grimt has worked in product management and engineering. She currently works across data center and cloud solutions.
Distributed simulation technologies have changed the way the Department of Defense does Research, Development & Engineering (RD&E), training, analysis, and testing. These technologies and associated standards have been in use for 20 years and have been documented in many forums. However, a critical element that has not been widely documented is the processes and tools required to execute a large multi-architecture distributed event. There are organizations that do these types of events very well, but the only way for the new practitioner to learn these skills is to be a member of one of these teams.

This tutorial provides a guide to the planning and execution of a large multi-architecture distributed event. This guide will include the steps to planning and executing an event including design of the simulation architecture, planning integration spirals, scenario development and rehearsal, conduct of the event, data collection and analysis. While the steps described in this tutorial are applicable to all large distributed events, special emphasis will be placed on multi-architecture based events. An example will be provided showing how to select architectures and object models. This tutorial is applicable to anyone involved in the development of a large test event. The material will be applicable to simulation architects, analysts, scenario developers, simulation users, and managers.

Presenter
MICHAEL J. O’CONNOR is Chief Technologist at Trideum Corporation. Mr. O’Connor has more than 25 years’ experience in Modeling and Simulation (M&S). He has been a key participant in the development of distributed modeling and simulation standards, including IEEE 1278 and IEEE 1516. He has held many positions in the community, including Chairman of the SISO Standards Activities Committee and Chairman of the SISO Executive Committee. He has served as the chair of the I/ITSEC Simulation Subcommittee and the I/ITSEC Training Subcommittee. He has led the development of multiple simulations using DIS, HLA, and TENA. Mr O’Connor has led the technical integration of several large multi-architecture distributed events. He holds a bachelor’s degree in Computer Engineering from Auburn University, and a master of science in Computer Science from the University of Alabama in Huntsville. Mr. O’Connor is a CMSP.

The Test and Training Enabling Architecture (TENA) and the Joint Mission Environment Test Capability (JMETC) program provide an advanced set of interoperability software, interfaces, and connectivity for use in joint distributed testing and training. This tutorial will provide information about how TENA works and why it is important to the test and training communities, with some comparison to other interoperability architectures. TENA provides testers and trainers software such as the TENA Middleware—a high-performance, real-time, low-latency communication infrastructure that is used by training range instrumentation software and tools during execution of a range training event. The standard TENA Object Models provide data definitions for common range entities and thus enables semantic interoperability among training range applications. The TENA tools, utilities, adapters and gateways assist in creating and managing an integration of range resources. The current version of the TENA Middleware, Release 6.0.5, is being used by the range community for testing, training, evaluation, and feedback and is being used in major exercises in the present.

JMETC is a persistent test and evaluation capability throughout the US DoD, connecting many test ranges together, including a bridge to the JTEN training network; a set of TENA-compliant software middleware, interfaces, tools, and databases; and a process for creating large distributed test events. The combination of TENA and JMETC gives testers and trainers unprecedented power to craft a joint distributed mission environment that forges the future for innovative testing and training.

Presenter
EDWARD D. POWELL, Ph.D., is a lead architect for the Test and Training Enabling Architecture. After receiving his Ph.D. in Astrophysics from Princeton University, he participated as lead architect in some of the most complex distributed simulation programs in DoD. He has been the lead architect for TENA for fifteen years, and is currently working on expanding the applicability of TENA, and integrating TENA with broader DoD-wide Data Management and Big Data analysis systems. Currently, he owns his own consulting company specializing in Simulation and Systems Architecture and Engineering.
Delivering effective military capability to counter increasingly diverse threats has never been more challenging, with fiscal constraints driving the need for ever greater efficiency in training provision. The aim of this tutorial is to show how the training environment model can be used to provide a structured framework for developing training environment specifications which facilitate the development and evaluation of effective training environments. The training environment model guides the identification of the key attributes of the physical and information environments within which our war-fighters operate, the means with which they interact with these environments, and the other significant actors in the environment. It also facilitates the identification of the key training environment features required to support training delivery (such as setting up and controlling the environment, monitoring performance and after action review). By identifying the key attributes of each of these elements that have to be specified, it becomes possible to explore how Live, Synthetic and Constructive substitutions can best be made to deliver training environments which challenge war-fighters in credible, demanding and engaging scenarios, whilst providing assurance of the capability that is being developed.

Presenter
JOHN HUDDLESTONE, Ph.D., is a Senior Research Fellow in the Human Systems Integration Group within the Mobility and Transport Faculty Research Centre of the Engineering, Environment and Computing Faculty at Coventry University in England. A former Royal Air Force Officer, he has extensive experience of training analysis, design and delivery in both aviation and engineering domains. During his subsequent academic career he has led research in to a broad spectrum of military training issues, spanning individual, team, collective and joint levels. A co-author of the Team and Collective Training Needs Analysis Methodology, his research interests include team training, human factors methods and aviation human factors. He holds a PhD in applied psychology from Cranfield University, an MSc in Computing Science from Imperial College, London and a BEd in Physics from Nottingham Trent University. He is a Chartered IT Professional and Member of the British Computer Society.

Harnessing Transmedia Learning: How to Optimize Your Productivity with Learning Science, Media, and Technology

A long-time goal of educators, developers, researchers, and policy-makers alike is that ecosystems of learning applications will someday provide adaptive, personalized learning that is facilitated by data shared among technologies. However, until the technical promise is fully realized, learners are still largely on their own to make sense of increasing amounts of information from disparate, unconnected sources. Learners generally lack the strategic support to learn across devices and engage in connected learning anytime, anywhere, with anyone. We can disrupt this cycle when we use learning science strategies, tailored media choices, and our favorite technologies to incentivize rich, connected transmedia learning experiences.

Applying learning science strategies for self-paced, transmedia learning “in the wild” can augment professional courses. Using several use cases as examples, this tutorial will demonstrate how learners can develop their own personalized transmedia learning frameworks (TLF) for self-directed learning when engaging with massively open online courses (MOOC), podcasts, social media, videos, and more. A walk-through of example transmedia learning frameworks for application in M&S skill development will be provided. Participants of this tutorial will take away practical strategies, resources, and tools that can be applied toward learning more productively in general, and with examples from Python, Git, and cybersecurity. Participants will learn how to make their own TLFs available to others for reuse. The tutorial begins with the motivation for developing personal strategies for learning “in the wild” and through descriptions and definitions, shows how TLFs can be used to augment self-paced learning for M&S professional development.

Presenter
ELAINE M. RAYBOURN, Ph.D., is a Principal Member of the Technical Staff in Applied Cognitive Science at Sandia National Laboratories. Her research in transmedia learning, games, and immersive simulations has been featured at GDC, SXSW-EDU, and in her TEDx talk on transmedia storytelling for next generation learning ecosystems. As a European Research Consortium for Informatics and Mathematics (ERCIM) Fellow, she has worked with teams at Fraunhofer FIT in Germany, the French National Institute for Computer Science (INRIA), and BT Global Research and Development in the UK. She holds a Ph.D. in Intercultural Communication and Human Computer Interaction from the University of New Mexico, and a Graduate Certificate in M&S of Behavioral Cybersecurity from the University of Central Florida. Dr. Raybourn is the Sandia National Laboratories Institutional PI for Interoperable Design of Extreme-scale Application Software (IDEAS-ECP) and the Conference Chair of ITEC 2019.
This tutorial has been designed by a team of subject matter experts to prepare attendees to understand the scope of I/ITSEC presentations and demonstrations. It provides definitions of widely-used technical terms, while explaining the range and types of models and simulations that are commonly applied in the M&S domain. The tutorial reviews major simulation architectures (HLA, TENA, DIS), the basics of instructional design, a description of the major standards and best practices available for use across the M&S problem space, and a brief presentation of resources that can provide further information. The tutorial introduces topics that are examined more extensively in other tutorials.

The tutorial is designed to be technically focused and is not intended to overview management or governance of M&S within the US DoD.

Presenters

JAMES E. COOLAHAN, Ph.D., is the Chief Technology Officer of Coolahan Associates, LLC, having retired from full-time employment at the Johns Hopkins University Applied Physics Laboratory (JHU/ APL) in December 2012 after 40 years of service. He chaired the M&S Committee of the Systems Engineering Division of the National Defense Industrial Association from 2010 through 2016, and teaches courses in M&S for Systems Engineering in the JHU Engineering for Professionals M.S. program. He holds B.S. and M.S. degrees in aerospace engineering from the University of Notre Dame and the Catholic University of America, respectively, and M.S. and Ph.D. degrees in computer science from JHU and the University of Maryland, respectively.

S. K. NUMRICH, Ph.D., CMSP, holds an AB, M.A. and Ph.D. in physics and worked as a research physicist at the Naval Research Laboratory plying her trade in a variety of fields including underwater sound in the Arctic (yes, aboard ship), fluid-structure interactions, parallel processing, modeling and simulation and virtual reality. Upon leaving government service, Dr. Numrich has joined IDA.

ROBERT RICHBOURG, Ph.D., is a member of the Research Staff at the Institute for Defense Analyses. He is a retired Army officer who holds a B.S. in Mathematics, and M.S. and Ph.D. in Computer Science. In his last active duty assignment, he was an Academy Professor and Director of the Artificial Intelligence Center at the United States Military Academy, West Point. He is a past chair of the I/ITSEC Tutorial Board and the I/ITSEC Simulation Subcommittee.

Machine learning, a branch of data science, is transforming the way we analyze and automate training and simulation. The secret is that machine learning is only as effective as the data used to train these algorithms. As a result, organizations, leaders, and the workforce, must be ready to embrace the technical and organizational changes needed to effectively operationalize their data and utilize machine learning. In this tutorial, you’ll learn more about this exciting field, discover how to prepare your organization for it, hear about from a DoD organization that is embracing Big Data and Artificial Intelligence (AI), and experience live demos of these approaches in action.

Presenters

JOE ROHNER is a Chief Technologist in Booz Allen Hamilton’s Digital & Analytics Strategic Innovation Group focused on delivering data science, AI, and analytics solutions for the Department of Navy and helping define how Navy can use data science to become a more mission-ready organization. In this role, he manages data scientists delivering machine/deep learning, computer vision, and natural language processing solutions. He also develops and implements hackathons that enable organizations to identify new analytical and machine learning techniques while recruiting future data science leaders. Joe has supported the Department of Navy for 13 years, to include their own hackathon series, HACKtheMACHINE. In 2017, Joe worked with U.S. Army TRADOC to launch the inaugural Data Science Futures Hackathon at I/ITSEC.

KAYE DARONE is the Data Science Director in the TRADOC G-2 Operational Environment Center (OEC), which is developing and deploying a Big Data/Al/Machine Learning platform for the delivery of the Operational Environment to customers across the Army, sister Services, multinational partners, government, and academia. Kaye has 34 years of experience in the government and private sectors, in support of Joint, Service, and National Agency intelligence, command and control systems, Modeling and Simulation and related programs. She became a civilian in 2004, and joined TRADOC G-2 in 2014.

SETH CLARK is a Senior Associate within Booz Allen Hamilton’s Strategic Innovation Group. He works at the intersection of Data Science, Artificial Intelligence, GPU Computing, and Product Management. He has served clients across the Federal government for over 10 years, from the DoD, to the Intelligence Community, to a range of Civilian Agencies. His experience delivering web & mobile applications, leading data science teams, and providing strategic guidance in the adoption of new technologies has given him real-world experience in how agencies can get the most value from machine learning & AI.
<table>
<thead>
<tr>
<th>ROOM</th>
<th>SESSION/CHAIR</th>
<th>1400</th>
<th>1430</th>
<th>1500</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320A</td>
<td>P-1 Agility and the Team: The Road to Margaritaville John Dzenutis</td>
<td>Stretching to Achieve NFL-Caliber Agility for Software Development Programs (18122)</td>
<td>An Agile ISD Process to Develop a Medical Simulation (18116)</td>
<td>Team Orlando: Community of Progress (18222)</td>
</tr>
<tr>
<td>S320B</td>
<td>S-1 Synthetic Environment Content Ronald Moore</td>
<td>Exploring Cloud-Based Terrain Generation Services (18253)</td>
<td>Maintaining Deep Content Libraries While Meeting Rising Quality Standards (18024)</td>
<td>Knowledge is Power – Representing Complexity in the Information Age (18300)</td>
</tr>
<tr>
<td>S320D</td>
<td>ED-1 Best Papers from around the Globe Amanda Davies, Ph.D.</td>
<td>Training and Simulations in the Middle East (What the Training and Simulations Senior Advisor is Telling the Organization's Leadership, and Why)</td>
<td>MODSIM: Leveraging Commercial Game Engines for Multi-Domain Image Generation</td>
<td></td>
</tr>
<tr>
<td>S320F</td>
<td>H-1 Assess, Decide, Disrupt J. Robert Bois, Ph.D.</td>
<td>The Effect of Work Experience on Risk Assessment Skills (18126)</td>
<td>Smart Simulation for Decision Support at Headquarters (18246)</td>
<td>Human-Agent Teaming: State of Assessments and Selected Issues (18283)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM</th>
<th>SESSION/CHAIR</th>
<th>1600</th>
<th>1630</th>
<th>1700</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320A</td>
<td>P-2 Architecture to Operations: It's 5 O'Clock Somewhere Susan Harkrider</td>
<td>Modelling &amp; Simulation as a Service – Empowering Operational Users (18225)</td>
<td>The Strategic Role of UCATT Standards to NATO's Enhanced Forward Presence Mission (18067)</td>
<td>Lessons Learned from Distributed Virtual Air Refueling (VAR) Integration (18005)</td>
</tr>
<tr>
<td>S320D</td>
<td>ED-2 Maximizing Learning Using Simulation Around the World William Gerber, Ph.D.</td>
<td>Advancing Capability: Designing Authentic Simulation-based Teaching, Learning and Assessment (18123)</td>
<td>Simulation as an Emerging Literacy (18118)</td>
<td>Development of an Educational Platform for Simulation Developers (18084)</td>
</tr>
<tr>
<td>ROOM</td>
<td>SESSION/CHAIR</td>
<td>0830</td>
<td>0900</td>
<td>0930</td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>S320A</td>
<td>P-3 Upsetting the Standards Cart</td>
<td>Julie Kent</td>
<td>A Capability Maturity Model for Flight Training (18298)</td>
<td>The New Wave of Training Technology Standards (18045)</td>
</tr>
<tr>
<td>S320C</td>
<td>EC-3 Information Potpourri</td>
<td>Sowmya Ramachandran, Ph.D.</td>
<td>Machine Supported Entity Resolution in the Cyber Domain (18168)</td>
<td>Tanks Don’t Tweet: Implementing Information Warfare Simulation (18154)</td>
</tr>
<tr>
<td>S320E</td>
<td>T-3 If I Had a Simulator</td>
<td>Nick Giannias</td>
<td>A Systematic Approach for Human Patient Simulation Assessment (18090)</td>
<td>Using Simulation to Assess Performance in Emergency Lifeboat Launches (18179)</td>
</tr>
<tr>
<td>S320F</td>
<td>H-3 Future Learning Architectures</td>
<td>Robby Robson, Ph.D.</td>
<td>Total Learning Architecture: Moving into the Future (18224)</td>
<td>Managing Learning and Tracking Performance across Multiple Mission Sets (18304)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM</th>
<th>SESSION/CHAIR</th>
<th>1030</th>
<th>1100</th>
<th>1130</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320C</td>
<td>EC-4 Mermaids &amp; Sirens: Challenges and Opportunities with Machine Learning</td>
<td>Brian Stensrud, Ph.D.</td>
<td>Deep Learning: Measure Twice, Cut Once (18048)</td>
<td>Adapting Bayesian Networks to Predict Complex Systems Using Small Datasets (18269)</td>
</tr>
<tr>
<td>S320D</td>
<td>ED-4 Simulation in a Blended Environment</td>
<td>Edward Degnan, Ph.D.</td>
<td>Learning Analytics with a xAPI in a Multinational Military Exercise (18196)</td>
<td>Training Command and Control in Search &amp; Rescue – Adaptive Behaviors in Uncertain Condition (18200)</td>
</tr>
<tr>
<td>S320F</td>
<td>H-4 Augmented Reality, Beyond Perceptions</td>
<td>Scott Hooper</td>
<td>Reliability Requirements for Augmented Reality in Visual Search Tasks (18247)</td>
<td>Evaluating Augmented Reality Assembly Instructions Delivered via Microsoft HoloLens (18272)</td>
</tr>
<tr>
<td>ROOM</td>
<td>SESSION/CHAIR</td>
<td>1400</td>
<td>1430</td>
<td>1500</td>
</tr>
<tr>
<td>--------</td>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>S320A</td>
<td>BP-2</td>
<td>HPAE—Validation Affordances: Keeping the Eye on 3D Virtual-Simulation Baseballs</td>
<td>Education—Microlearning as a Corporate Learning Business Case</td>
<td>ECIT—Beyond Ender’s Game – Fusions of Simulations into Operational Interfaces</td>
</tr>
<tr>
<td></td>
<td>Best Papers (Session 2 of 2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carla Cropper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OBW: The Rest of the Story</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LTC Brian Vogt, USA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC-5</td>
<td>Taming the Terminator (18065)</td>
<td>Multidisciplinary Standard-based Architecture for Underwater Autonomous Systems (18160)</td>
<td>Simulation of In-theater VLF Communications to Unmanned Underwater Vehicles (18199)</td>
</tr>
<tr>
<td></td>
<td>Autonomy: Sea and Air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paul Watson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-6</td>
<td>Teaching Modeling to Engineers in an Undergraduate Simulation Course (18101)</td>
<td>Assessing Character in Army Initial Entry Training (18050)</td>
<td>Rating Domain Analysis: Determining Ready, Relevant Learning Point of Need (18098)</td>
</tr>
<tr>
<td></td>
<td>Cyber and Electronic Warfare in a Contested Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lisa Tripp, Ph.D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>S-5</td>
<td>Valuating Distributed Mission Simulation in a Tactical Integrated Training Environment (18202)</td>
<td>Achieving Air and Surface Dominance through a Joint Secure Interoperable LVC Solution (18214)</td>
<td>Cyber Training Experimentation through Operation Blended Warrior (18309)</td>
</tr>
<tr>
<td></td>
<td>LVC Training Environments: From Air Dominance to Cyber</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Jeff Frost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ED-5</td>
<td>Jamming Techniques and their Usage in Distributed Electronic Warfare Simulation (18252)</td>
<td>Cyber Synthetic Services (18188)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Initial Pathways to Military Education and Training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kevin Oakes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC-6</td>
<td>Blockchain Applications in Distributed Simulation (18039)</td>
<td>Securing Distributed Simulation and Training Using Blockchain Technologies (18195)</td>
<td>Impact of Popular Media on the Potential of Educational Games (18322)</td>
</tr>
<tr>
<td></td>
<td>Blockheads – Linked by Crypto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beth Pettitit, Ph.D.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Modeling and Simulation Processes and Practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cindy Harrison</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC-7</td>
<td>Collaborative Risk Assessment in Virtual Reality Environments (18280)</td>
<td>Three-Dimensional Immersive Diagnostic Tool for Spatial Egocentric Ability (18148)</td>
<td>Human-Like Auditory Detection Capability for Intelligent Virtual Agents (18009)</td>
</tr>
<tr>
<td></td>
<td>VR: Moving Beyond the Hype</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diane Justice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ED-6</td>
<td>Students from around the country present papers on the projects demonstrated in the Future Leaders Pavilion (FLP). Visit them in Booth #2681 and stand by to be overwhelmed by the depth of their research papers during this session.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Future Leaders Presentations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ann Friel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T-6</td>
<td>Effective Deployment of LVC-TE on Wide Area Networks (18092)</td>
<td>Initial Evaluations of Adaptive Training Technology for Language and Culture (18145)</td>
<td>Team Training for Enemy Identification Using an Intelligent Tutoring System (18291)</td>
</tr>
<tr>
<td></td>
<td>Adapt, Deploy, and Train</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Janet Weisenford</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H-5</td>
<td>Uncanny Avatars in Virtual Aircraft Environments: How Best to Represent (18030)</td>
<td>Development &amp; Validation of a Human Patient Simulator Gender Retrofit Kit (18266)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Virtually Human</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alexandra Steiner, Ph.D.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Thursday, 29 November

**All papers are eligible for CEU/CLP credits (see page 47)**

<table>
<thead>
<tr>
<th>Room</th>
<th>Session/Chair</th>
<th>0830</th>
<th>0900</th>
<th>0930</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320C</td>
<td>EC-8 Virtual Content is King</td>
<td>Interspecies Animation System for Human and Quadruped Characters (18198)</td>
<td>Modeling Battle Drills for Computer-Generated Forces Using Behavior Trees (18081)</td>
<td>Technology-Supported Learning Environment and Self-Efficacy of Teachers (18031)</td>
</tr>
<tr>
<td>S320D</td>
<td>ED-7 Spinning the Web of Online Learning</td>
<td>Hey, This is What Your Teacher Needs to Start with Online Lectures (18056)</td>
<td>Electronix Tutor: An Adaptive Learning Platform with Multiple Resources (18064)</td>
<td>Training with Virtual Reality: Lessons Learned (18040)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room</th>
<th>Session/Chair</th>
<th>1030</th>
<th>1100</th>
<th>1130</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320B</td>
<td>S-10 Move, Shoot and Communicate</td>
<td>Deploying Disruptive Technology in an Agile Intelligence Training Environment (18079)</td>
<td>Game-based Proving-Grounds Simulation to Assess Driving &amp; Learning Preferences (18003)</td>
<td>Performance Assessment of the Communication Infrastructure for the LVC Simulation (18130)</td>
</tr>
<tr>
<td>S320C</td>
<td>EC-9 Enhancing Training Naturally</td>
<td>Authoring Tools for Free-Play Simulation-Based Troubleshooting Training (18025)</td>
<td>Building a Human-Machine Teaming Training Testbed (18112)</td>
<td>Evaluating and Infusing Participants’ Stress Levels in Dynamic Training (18060)</td>
</tr>
<tr>
<td>S320E</td>
<td>T-8 Effectiveness of Multinational Exercises</td>
<td>Integrating Advanced Distributed Learning into Multinational Exercises (18152)</td>
<td>Lessons Learned from Leveraging Simulation as a Service in Viking18 (18329)</td>
<td>Cloud-based Modeling and Simulation Study Group (18256)</td>
</tr>
<tr>
<td>S320F</td>
<td>EC-10 Cloudy With A Chance of Technology</td>
<td>A Serious Games Micro-Service Architecture (18159)</td>
<td>Advanced RAID Technology Minimizes Network Traffic in Service Oriented Architectures (18258)</td>
<td>Scott Schutzmeister</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room</th>
<th>Session/Chair</th>
<th>1330</th>
<th>1400</th>
<th>1430</th>
</tr>
</thead>
<tbody>
<tr>
<td>S320B</td>
<td>S-11 Enhancing Medical Training</td>
<td>Using the Advanced Modular Manikin Architecture to Extend the Scope of Medical Task Trainers (18184)</td>
<td>Saving Eyesight Using Simulation (18074)</td>
<td></td>
</tr>
</tbody>
</table>

**The World’s Largest Modeling & Simulation Event**
**Best Papers**

**BP-1**  WEDNESDAY • 28 NOVEMBER • 1030 • ROOM S320A

**Best Papers (Session 1 of 2)**

**Session Chair:** Chelsea Stiles, General Dynamics Information Technology

**Training—Pilot Training Next: Breaking Institutional Paradigms Using Student-Centered Multimodal Learning (18239)**

Jennifer Lewis, Joyner Livingston, SAIC

**PSMA—Leveraging Science and Technology to Launch Innovation in Learning (18261)**

Kendy Vierling, Ph.D., TECUSMC; Sae Schatz, Ph.D., ADL Initiative; Amy LaFleur, USMC; Dwight Lyons, Potomac Institute for Policy Studies

**Simulation—Understanding Cloud-Based Visual System Architectures (18042)**

Jeanette Ling, Rockwell Collins

**BP-2**  WEDNESDAY • 28 NOVEMBER • 1400 • ROOM S320A

**Best Papers (Session 2 of 2)**

**Session Chair:** Carla Cropper, Rockwell Collins

**HPAE—Validation Affordances: Keeping the Eye on 3D Virtual-Simulation Baseballs (18143)**

Ric Roca, Ph.D., ODU/Simulated Instruments, Inc.; Stacie L. Ringleb, Ph.D., ODU; Lance M. Optican, National Eye Institute, NIH, DHHS, Bethesda, MD

**Education—Microlearning as a Corporate Learning Business Case (18229) 18229**

Anne Little, Ph.D., SAIC

**ECIT—Beyond Ender’s Game – Fusions of Simulations into Operational Interfaces (18235)**

Peter Crane, Ph.D., VR Rehab, Inc.; Alexandra Proaps, James P. Bliss, Ph.D., ODU; Patrick Benasutti, U.S. Army Natick Soldier Research, Development and Engineering Center

**ED-1**  TUESDAY • 27 NOVEMBER • 1400 • ROOM S320D

**Best Papers from around the Globe**

**Session Chair:** Amanda Davies, Ph.D., Rabdan Academy Abu Dhabi

**Session Deputy:** Wendy Johnson, HQ AETC/A8PX

**ITEC Best Paper: Training and Simulations in the Middle East (What the Training and Simulations Senior Advisor is Telling the Organization’s Leadership, and Why)**

Frank Belonus

**MODSIM Best Paper: Leveraging Commercial Game Engines for Multi-Domain Image Generation**

Ashley Medford

**ED-2**  TUESDAY • 27 NOVEMBER • 1600 • ROOM S320D

**Maximizing Learning Using Simulation Around the World**

**Session Chair:** William Gerber, Ph.D., Institute for Defense Analyses

**Session Deputy:** Anastacia (Stacy) MacAllister, Ph.D., Iowa State University

**Advancing Capability: Designing Authentic Simulation-based Teaching, Learning and Assessment (18123) ✴**

Amanda Davies, Ph.D., Rabdan Academy Abu Dhabi; Irwyn Shepherd, Ph.D., Monash University Melbourne; Elyssebeth Leigh, Ph.D., University of Technology Sydney

**Simulation as an Emerging Literacy (18118) ✴**

Teresa Crea, Ph.D., University of New South Wales

**Development of an Educational Platform for Simulation Developers (18084) ✴**

Maciej Zasuwa, Ph.D., Pawel Obrepalski, Jan Kobryn, Warsaw University of Technology

**ED-3**  TUESDAY • 27 NOVEMBER • 0830 • ROOM S320D

**Great Minds Think Unlike in AR/VR/MR**

**Session Chair:** Toni Hawkins-Scribner, Air University/Squadron Officer School

**Session Deputy:** Matthew Hackett, ARL HRED SSTC

**Aligning Current AR/VR/MR Training with the Science of Learning (18036)**

Jeffrey M. Beaubien, Ph.D., Evan Oster, Janet Spruill, Aptima, Inc.

**Developing an Intelligent Tutoring System for Robotic-assisted Surgery Instruction (18041)**

Danielle Julian, Roger Smith, Ph.D., Florida Hospital Nicholson Center

**Novel Approach to Mass Casualty Triage Training and Competency Assessment (18230)**

Teresa Riech, M.D., Matthew Bramle, M.D., Jump Simulation and Education Center

**ED-4**  TUESDAY • 27 NOVEMBER • 1030 • ROOM S320D

**Simulation in a Blended Environment**

**Session Chair:** Edward Degnan, Ph.D., AFAMS

**Session Deputy:** Claudia Clark, Ph.D., Surface Warfare Officers School

**Learning Analytics with a xAPI in a Multinational Military Exercise (18196)**

Aaron Presnall, Ph.D., Vesna Radijovic, Jefferson Institute

**Training Command and Control in Search & Rescue – Adaptive Behaviors in Uncertain Condition (18200)**

Fredrick Forsman, Lars Axvi, Chalmers University of Technology

**Migrating Nondigital Learning Events for xAPI Data Collection (18037)**

Martin Bogan, Scott Bybee, CAE USA Inc.; Thomas O’Connell, Mimetic Industries
ED-5  WEDNESDAY • 28 NOVEMBER • 1400 • ROOM S320D
Initial Pathways to Military Education and Training
Session Chair: Kevin Oakes, SAIC
Session Deputy: Kelly Hale, Ph.D., Design Interactive
Teaching Modeling to Engineers in an Undergraduate Simulation Course (18101)
Vikram Mittal, Ph.D., COL Robert Kewley, LTC Brett Lindberg, USA, United States Military Academy
Assessing Character in Army Initial Entry Training (18050)
Tatiana H. Toubneva, Andrew Naber, Ph.D., Kristy Reynolds, Krista L. Ratwani, Ph.D., Aptima, Inc.; Frederick J. Diedrich, Ph.D., Scott M. Flanagan, Sophia Speirs; Jennifer S. Tucker, Ph.D., Army Research Institute; Gioanna Ubbilus, Charles Nocker, Corrine M. Gerard, PricewaterhouseCoopers Public Sector, LLP
Rating Domain Analysis: Determining Ready, Relevant Learning Point of Need (18098)
Judith Hale, Ph.D., Christina Welch, Adrienne Read, NA WCTSD

ED-6  WEDNESDAY • 28 NOVEMBER • 1600 • ROOM S320D
Students from around the country present papers on the projects demonstrated in the Future Leaders Pavilion (FLP). Visit them in Booth #2681 and stand by to be overwhelmed by the depth of their research papers during this session.

ED-7  THURSDAY • 29 NOVEMBER • 0830 • ROOM S320D
Spinning the Web of Online Learning
Session Chair: Randy Jensen, Stottler Henke Associates, Inc.
Session Deputy: Colleen Matthews, U.S. Army PEO STRI
Hey, This is What Your Teacher Needs to Start with Online Lectures (18056)
Commander Geir Isaksen, Siren Elise Froytlog Hole, Norwegian Defense University College
Electronix Tutor: An Adaptive Learning Platform with Multiple Resources (18064)
Arthur C. Graesser, Ph.D., Andrew J. Hampton, Ph.D., Brent Morgan, Ph.D., Lijia Wang, Charvi A. Majmudar, Bashir I. Morshed, Ph.D., Xinghen Hu, Zhigiang Cai, Andrew C. Tackett, Andrew M. Olney, Ph.D., Vasile Rus, University of Memphis Institute for Intelligent Systems; Benjamin D. Nye, Ph.D., USC Institute for Creative Technologies
Technology-Supported Learning Environment and Self-Efficacy of Teachers (18031)
Chadia Affane Aji, Ph.D., M. Javed Khan, Ph.D., Tuskegee University

ED-8  THURSDAY • 29 NOVEMBER • 1030 • ROOM S320D
SPOTLITE: Leaderboards & Baseball
Session Chair: Christina Welch, NA WCTSD
Session Deputy: Chelsea Stiles, General Dynamics Information Technology
Mobile Assessment Technology in Army Schoolhouse Training (18114)
Elizabeth R. Uhl, Ph.D., U.S. Army Research Institute; Courtney Dean, Krista Ratwani, Ph.D., Aptima, Inc.
Assessment of Flow, Immersion & Engagement on Game-based Strategies for Kinesic Cue Detection (18165)
Alexander Miranda, Jonathan Hurter, Kayla Coca, Kassidy James, Crystal S. Maraj, Ph.D., University of Central Florida Institute for Simulation and Training
Research to Training: Adapting a Sports Science Method to Improve Military Rapid Response Skills (18213)
Peter J. Fadde, Ph.D., Southern Illinois University

Emerging Concepts & Innovative Technologies
EC-1  TUESDAY • 27 NOVEMBER • 1400 • ROOM S320C
Automation: Trust Me, ITS the Future
Session Chair: Tara Kilcullen, Aptima, Inc.
Session Deputy: Dave Orne, Lockheed Martin Corporation
Using Novices to Scale Up Intelligent Tutoring Systems (18028)
Andrew M. Olney, Ph.D., University of Memphis
Automating the Training Feedback Paradigm with Intelligent After Action Review (18275)
Barry Clinger, Riptide Software; Robert Burch, Dignitas Technologies; Jeremy Lanman, Ph.D., James Todd, U.S. Army PEO STRI
The Application of Automation Systems for Training – Implications of Trust (18019)
Emily C. Anania, Don Selvy Enterprises, Inc.; John Killilea, Beth Atkinson, NA WCTSD

EC-2  TUESDAY • 27 NOVEMBER • 1600 • ROOM S320C
Deep Learning: Dive Right In
Session Chair: Harry Sotomayor, U.S. Army PEO STRI
Session Deputy: Carla Cropper, Rockwell Collins
Deep Learning Applications for Modeling, Simulation, and Training (18315)
Tim Woodard, NVIDIA; Mike Enloe, U.S. Army CAC
Exterior Attribute Extraction and Interior Layout Speculation of 3D Structures (18243)
Ronald G. Moore, Matthew J. Reilly, Leidos; Tony Pelham, GameSim
Temporal IR Energy Maps for Synthetic Virtual Training (18255)
Joseph T. Kider, Jr., Ph.D., UCF Institute for Simulation and Training; Mark Faulk, Cornerstone Software Solutions, Inc.; Ron Moore, Leidos; Lt. Julian Barriga, Jarred Holt, Ph.D., AFRL

EC-3  WEDNESDAY • 28 NOVEMBER • 0830 • ROOM S320C
Information Potpourri
Session Chair: Sowmya Ramachandran, Ph.D., Stottler Henke Associates, Inc.
Session Deputy: Leslie Dubow, VHA EES
Machine Supported Entity Resolution in the Cyber Domain (18168)
David A. Noever, Ph.D., J. Wesley Regian, Ph.D., PeopleTec, Inc.
Data Science Challenges: Cut Your Time in Hack! (18158)
Joe Rohner, Booz Allen Hamilton; Kaye T. Darone, U.S. Army TRADOC
Mermaids & Sirens: Challenges and Opportunities with Machine Learning
Session Chair: Brian Stensrud, Ph.D., Soar Technology
Session Deputy: Tim Woodard, NVIDIA
Deep Learning: Measure Twice, Cut Once (18048)
Robert F. Richbourg, Ph.D., Institute for Defense Analyses
Adapting Bayesian Networks to Predict Complex Systems Using Small Datasets (18269)
Anastacia MacAllister, Eliot Winer, Ph.D., Iowa State University
Data-driven Training Development: Deriving Performance Constraints from Operational Examples (18324)
Randy Jensen, Sowmya Ramachandran, Ph.D., Stottler Henke Associates, Inc.

Autonomy: Sea and Air
Session Chair: Paul Watson, U.S. Army PEO STRI
Session Deputy: Jay Truitt, NECC
Taming the Terminator (18065)
Robert Lutz, William D’Amico, Ph.D., Kristine Ramachandran, Reed Young, Johns Hopkins APL; Christopher M. Eaton, 412th Test Wing; Derek Kingston, AFRL
Multidisciplinary Standard-based Architecture for Underwater Autonomous Systems (18160)
Alberto Tremorini, Ph.D., Arnau Carrera, Ph.D., Pilar Caamaño, Thomas Mansfield, Giovanni Luca Maglione, David Solarna, Robert Been, NATO STO Centre for Maritime Research and Experimentation
Simulation of In-theater VLF Communications to Unmanned Underwater Vehicles (18199)
Terry Whelan, Wei Liu, Ph.D., Jeff Weaver, Ph.D., Rajive Bagrodia, Ph.D., Scalable Network Technologies; Pedro A. Forero, Ph.D., Jose Chavez, Matthew Capella, Space and Naval Warfare Systems Center Pacific

Blockheads – Linked by Crypto
Session Chair: Beth Pettitt, Ph.D., STTC
Session Deputy: Chuck Breed, Zenetex LLC
Blockchain Applications in Distributed Simulation (18039)
Roger Smith, Ph.D., Danielle Julian, Florida Hospital Nicolson Center
Securing Distributed Simulation and Training Using Blockchain Technologies (18195)
Shawn Boucher, Mohammed Elshennawy, Spencer Frazier, Joshua Jacobs, Heather Kurtz, Benjamin Noble, Lockheed Martin Corporation
Impact of Popular Media on the Potential of Educational Games (18322)
Jennifer McNamara, BreakAway Games; Victoria Van Voorhis, Second Avenue Learning

VR: Moving Beyond the Hype
Session Chair: Diane Justice, AFMC
Session Deputy: Aerial Kreiner, Ph.D., AFRL
Collaborative Risk Assessment in Virtual Reality Environments (18280)
Robert J. Slezak, Nir Keren, Ph.D., Tor Finseth, Iowa State University
Three-Dimensional Immersive Diagnostic Tool for Spatial Egocentric Ability (18148)
Maria Kozhevnikov, Ph.D., National University of Singapore; Michael Kozhevnikov, Ph.D., Norfolk State University
Human-Like Auditory Detection Capability for Intelligent Virtual Agents (18009)
Hung Tran, CAE USA, Inc.

Interspecies Animation System for Human and Quadruped Characters (18198)
Tyler Ricks, Rockwell Collins
Modeling Battle Drills for Computer-Generated Forces Using Behavior Trees (18061)
Per-Iidar Evensen, Håvard Stien, Dan Helge Bentsen, Norwegian Defense Research Establishment

Authoring Tools for Free-Play Simulation-Based Troubleshooting Training (18025)
Eric Domeshke, Ph.D, Sowmya Ramachandran, Ph.D., Randy Jensen, Stottler Henke Associates, Inc.
Building a Human-Machine Teaming Training Testbed (18112)
Julia L. Berger, Ph.D., Kent C. Halverson, Ph.D., Eric Watz, Apta, Inc.; David Malek, Wright State Research Institute
Evaluating and Infusing Participants’ Stress Levels in Dynamic Training (18060)
Richard E. Cleveland, Ph.D., Jonathan C. Hilpert, Ph.D., Georgia Southern University; Andrew E. Cleveland, Pentagon Force Protection Agency

Cloudy With A Chance of Technology
Session Chair: Scott Schutzmeister, Institute for Defense Analyses
Session Deputy: John Hodak, NAWCTSD
Cloud-based Modeling and Simulation Study Group (18256)
COL Robert Kewley, USA, USMA; Chris McGroarty, U.S. Army Research Laboratory; Joe McDonnell, Ph.D., Keith Snively, Dynamic Animation Systems, Inc.; Scott Gallant, Effective Applications; Jonathan Diemunsch, 711th High Performance Wing
A Serious Games Micro-Service Architecture (18159) ∗
Prof. Alessandro De Gloria, Riccardo Berta Ph.D., Francesco Bellotti Ph.D., University of Genoa

Advanced RAID Technology Minimizes Network Traffic in Service Oriented Architectures (18258)
Mark Cuccarese, Cole Engineering Services, Inc.; Paul Cooper, Seminole County Schools

Human Performance, Analysis and Engineering
H-1 TUESDAY • 27 NOVEMBER • 1400 • ROOM S320F
Assess, Decide, Disrupt
Session Chair: J. Robert Bois, Ph.D., Lockheed Martin
Session Deputy: Gordon Gattie, Ph.D., NSWC Dahlgren

The Effect of Work Experience on Risk Assessment Skills (18126)
Jennica Bellanca, Brianna Eiter, Ph.D., Jonathan Hrica, National Institute for Occupational Safety and Health (NIOSH); Terry Weston, Robert Weston, South Central College

Smart Simulation for Decision Support at Headquarters (18246) ∗
Ariane Bitoun, Yann Prudent, Antony Hubervic, MAS Group

Human-Agent Teaming: State of Assessments and Selected Issues (18283)
Grace Teo, Ph.D., Lauren Reinerman-Jones, Ph.D., Maartje Hidalgo, University of Central Florida Institute for Simulation and Training; Clayton Burford, Army Research Laboratory

H-2 TUESDAY • 27 NOVEMBER • 1600 • ROOM S320F
Neurologically Speaking
Session Chair: Perry McDowell, MOVES Institute
Session Deputy: Kendy Vierling, Ph.D., USMC TECOM

Objective Stress Monitoring for Live Training Exercises (18105)
Zach Huber, Brent Winslow, Ph.D., Joanna Chiang, Mark Dranias, Ph.D., Design Interactive; Ajmal Aziz, Department of Homeland Security S&T First Responder Group

Assessing Intuitive Decision Making with Cognitive Neuroscience-based Methods (18110)
Lisa C. Lucia, Ph.D., Jeffrey M. Beaubien, Ph.D., E. Webb Stacy, Ph.D., Aptima, Inc.; CAPT Ronald Steed, USN (Ret.)

Boosting Cognitive Capabilities through Enhanced States during Gaming (18149) ∗
Maria Kozhevnikov, Ph.D., National University of Singapore & Harvard Medical School

H-3 WEDNESDAY • 28 NOVEMBER • 0830 • ROOM S320F
Future Learning Architectures
Session Chair: Robby Robson, Ph.D., Eduworks
Session Deputy: Adelle Lynch, Thales UK

Total Learning Architecture: Moving into the Future (18224)
Brent Smith, ADL Initiative; P. Shane Gallagher, Ph.D., Institute for Defense Analyses; Sae Schatz, Ph.D., Jennifer Vogel-Walcutt, Ph.D., ADL Initiative

Managing Learning and Tracking Performance across Multiple Mission Sets (18304)
Eric Watz, Peter Neubauer, John Kegley, Ph.D., Aptima, Inc.

Augmented Reality, Beyond Perceptions
Session Chair: Scott Hooper, Bohemia Interactive Simulations
Session Deputy: Scott Johnston, Booz Allen Hamilton

Reliability Requirements for Augmented Reality in Visual Search Tasks (18247)
Samuel Monfort, Ph.D., John Graybeal, Ph.D., KINEX, Inc.; Ewart de Visser, Ph.D., Warfighter Effectiveness Research Center, U.S. Air Force Academy; Todd Du Bosq, Ph.D., U.S. Army RDECOM CERDEC Night Vision and Electronic Sensors Directorate

Evaluating Augmented Reality Assembly Instructions Delivered via Microsoft HoloLens (18272)
Melynda Hoover, Jack Miller, Stephen Gilbert, Ph.D., Eliot Winer, Ph.D., Iowa State University; Paul Davies, The Boeing Company

A Maintenance Domain Experiment of Efficiency and Precision Comparing Augmented Reality and Traditionally Cued Procedures (18285)
CDR Christopher Angelopoulos, USN, Rudolph darken, D.Sc., Perry McDowell, Naval Postgraduate School

H-4 WEDNESDAY • 28 NOVEMBER • 1030 • ROOM S320F
Virtually Human
Session Chair: Alexandra Steiner, Ph.D., Trideum Corporation
Session Deputy: Robert Wallace, USAF Air Combat Command

Uncanny Avatars in Virtual Aircraft Environments: How Best to Represent (18030)
Rob Lechner, The Boeing Company; Shawn Burke, University of Central Florida; Elizabeth Biddle, Ph.D., The Boeing Company; Claudia Hernandez, Mike Eakins, David Metcalf, Ph.D., University of Central Florida

Development & Validation of a Human Patient Simulator Gender Retrofit Kit (18266)
Mark V. Mazzeo, Teresita M. Sotomayor, Ph.D., U.S. Army Research Laboratory STTC; Jordan N. Coulter, Angela M. Alban, SIMETRI, Inc.
Agility and the Team: The Road to Margaritaville
Session Chair: John Dzenutis, The Boeing Company
Session Deputy: Doug Parsons, U.S. Army ARDEC

Stretching to Achieve NFL-Caliber Agility for Software Development Programs (18122)
Scott Tufts, NA WCTSD; Ben Boyle, Ray Lyons, Advanced Acoustic Concepts LLC

An Agile ISD Process to Develop a Medical Simulation (18116)
Susan Dass, Ph.D., ICF International; Victor Cid, National Library of Medicine

Team Orlando: Community of Progress (18222)
Jennifer J. Vogel-Walcutt, Ph.D., ADL Initiative

Architecture to Operations: It’s 5 O’Clock Somewhere
Session Chair: Susan Harkrider, Night Vision & Electronic Sensors Directorate
Session Deputy: Michael Sanders, Texas A&M - Corpus Christi, Research, Commercialization and Outreach

Modelling & Simulation as a Service – Empowering Operational Users (18225) ✪
Keith Ford, Ph.D., Thales UK Limited

The Strategic Role of UCATT Standards to NATO’s Enhanced Forward Presence Mission (18067)
Captain Sander Cruiming, Royal Netherlands Army Simulation Center

Lessons Learned from Distributed Virtual Air Refueling (VAR) Integration (18005)
Jonica Tramposch, Christian Schwindt, Northrop Grumman Corporation

Upsetting the Standards Cart
Session Chair: Julie Kent, Raytheon Company
Session Deputy: LtCol Stephen Brzostowski, USMC, MARCORSYSCOM PM TRASYS

A Capability Maturity Model for Flight Training (18298)
Jean-François Delisle, Stéphane Ouellet, Derek Linders, CAE Inc.

The New Wave of Training Technology Standards (18045)
Robby Robson, Ph.D., Eduworks Corporation; Avron Barr, Institute for Defense Analyses

Achieving Full Potential through Evaluation Policy that Disrupts Status Quo (18292)
Miriam Plaza, Intelligent Decision Systems; Pamela Bishop, Creative Veteran Productions; Marie H. Prosper, Klainie Nedoroscik, American Systems

Interoperability: You Can’t Always Get What You Want
Session Chair: Eric Weisel, Old Dominion University
Session Deputy: LCDR Chris Davidson, RAN, NSWCDD-DNA

Defining Virtual Training System Requirements for Foreign Military Sales (18038)
Michael Coleman, Ronald Brabant, NA WCTSD

Making Joint and Multinational Simulation Interoperability a Reality (18268) ✪
Emilie A. Reitz, JS J6, Joint Fires Division; Kevin Seavey, Alion Science and Technology

Can We Talk? Semantic Interoperability and the Synthetic Training Environment (18093)
Paula J. Durlach, Ph.D., U.S. Army Research Laboratory HRED

Another Brick in the Wall: Filling the Gap in Simulation
Session Chair: Martin Bink, Ph.D., U.S. Army Research Institute
Session Deputy: Tiffany Peterson, Arorae Corporation

Building Bricks for Simulation: From Flexibility to Consistency (18069) ✪
Lieutenant-Colonel Eric du Pontavice, French Army Simulation and Digitization Expert Center

Mind the Gap: A Modeling and Simulation Gap Management Framework (18062)
Frank Mullen, Institute for Defense Analyses; Leigh G. Yu, Defense Modeling & Simulation Coordination Office

Toward Dimensional Analysis Conceptual Modeling for Reusable Modeling Primitive Specification (18142)
Ric Roca, Ph.D., Simulated Instruments, Inc.; Eric Coatanéa, Ph.D., Tampere University of Technology

Synthetic Environment Content
Session Chair: Ronald Moore, Leidos, Inc.
Session Deputy: Kenny Hebert, Quantum3D

Exploring Cloud-Based Terrain Generation Services (18253)
Lance Marrou, Glenn Carr, Leidos, Inc.; Keith Nielsen U.S. Army PEO STRI

Maintaining Deep Content Libraries While Meeting Rising Quality Standards (18024)
Brian Vacek, FlightSafety International

Knowledge is Power – Representing Complexity in the Information Age (18300) ✪
Rob McConachie, Thales UK

Augmented and Virtual Reality
Session Chair: Thomas Kehr, Cole Engineering, Inc.
Session Deputy: Peter Swan, VT MÄK

An Architectural Overview of the Augmented Reality Sandtable (ARES) (18245)
Nathan L. Vey, Yasmina Raby, Charles Amburn, ARL; Christopher Markuck, Dignitas Technologies

Creating a 360-Degree RGB-D Sensor System for Augmented Reality Research (18211)
Brian M. Williamson, Joseph J. LaViola, Jr., Ph.D., University of Central Florida; Robert Sottilare, Ph.D., Pat Garrity, ARL

Using Modeling and Simulation to Design the Future Squad (18241)
Neil Pinto, Chris May, U.S. Army Night Vision and Electronic Sensors Directorate; Andy Gross, Trideum Corporation
S-3 WEDNESDAY • 28 NOVEMBER • 0830 • ROOM S320B
Creating Complex Urban Environments
Session Chair: John Huddleston, Ph.D., Coventry University
Session Deputy: Leigh Yu, Defense Modeling and Simulation Coordination Office
Agile Terrain Development for Simulation-Based Training (18295)
Rick Osborne, The MITRE Corporation; Donald Washburn, Ronald G. Moore, Leidos; Mark Faulk, Cornerstone Software Solutions, Inc.
In Search of Plausibility: Simulating a Future Contested Urban Environment (18132) ★
Justin Fidock, Ph.D., Teresa Crea, Ph.D., University of Canberra; Trent Burnard, Scott Alexander, Shane Ploenges, Rheinmetall Defence Australia and New Zealand
Crisis Decision-making with M&S Support in Complex Urban Environments (18086) ★
Lt Col Walter David, NATO M&S Center of Excellence; Hans ten Bergen, MASA Group; Judge Brindusa Andreaa Sarbu, 1st District of Bucharest, Romania; Col. Orlin Nikolv, CMDR Centre of Excellence; Lt. Col. Kostadin Lazarov, CMDR Centre of Excellence; Alessandro Lo Presti, Fabaris

S-4 WEDNESDAY • 28 NOVEMBER • 1030 • ROOM S320B
Air LVC and Cybersecurity Challenges
Session Chair: James “Spanky” Dennis, General Dynamics Information Technology
Session Deputy: LT Mike Natali, NAVMED
Assessing Cyber Resilience of Military Systems Using LVC Models (18323)
Ha Duong, Ph.D., Rajive Bagrodia, Scot Dietz, SCALABLE Network Technologies; Brian Salisbury, Ph.D., SPAWAR Systems Center – Pacific
Advancing the State-of-the-Art in Airborne LVC Training (18249)
Lance R. Call, L3 Technologies; Rob Lechner, The Boeing Company
Challenges and Opportunities for the Real-time Simulation of Ship/ Helicopter Operations (18058)
Ian Cox, Dr. Gary Henry, SEA

S-5 WEDNESDAY • 28 NOVEMBER • 1400 • ROOM S320B
OBW: The Rest of the Story
Session Chair: LTC Brian Vogt, USA, NATO ACT
Session Deputy: Tracy Titcombe, Air Force Life Cycle Management Center
Operation Blended Warrior 2017: Behind the Curtain! (18129)
Cathy Matthews, Matthews Systems Engineering, Inc.; Kent Gritton, Dave Kotick, CDR Gilbert Gay, USN, NAWCTSD; Farid Mamaghani; Gary Fraas, M&S Strategic Partners, LLC
Operation Blended Warrior 2017: Terrain Database Interoperability Lessons Learned (18254)
Michael Woodman, Ph.D. SAIC; Thomas Kehr, Cole Engineering Inc.; Farid Mamaghani; Ron Sprinkle, Leidos, Inc.
The OBW Emerald City Inset Experience (18139)
Thomas Kehr, Cole Engineering, Inc; Ronald Moore, Sean Sedlak, Ryan Boyd, Leidos, Inc.

S-6 WEDNESDAY • 28 NOVEMBER • 1400 • ROOM S320F
Cyber and Electronic Warfare in a Contested Environment
Session Chair: Lisa Tripp, Ph.D., U.S. AFRL
Session Deputy: Ron Inmon, MARCORSYSCOM PM TRASYS
Jamming Techniques and their Usage in Distributed Electronic Warfare Simulation (18252)
Charles Brooks, SRC, Inc.; David Haber, Rockwell Collins; Patrick Metter, Parsons Corporation
Cyber Synthetic Services (18188) ★
LTC Marco Biagini, Massimo Pizzi, LTC Jason Jones, NATO M&S Center of Excellence; Luc Dandurand, Guardtime; Andri Rebane, Kaitseministeerium; Wolfhard Schmidt, NATO JFTC; Marco Picollo, Leonardo Company; LT Sonia Forconi, Italian Army
Simulation Architecture for Network Centric Sensors and Electronic Warfare Engagements (18156) ★
Reeshen Reddy, Brian Burmeister, Solly Manamela, Ushik Mewalal, Umur Kathree, Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa

S-7 WEDNESDAY • 28 NOVEMBER • 1600 • ROOM S320B
Modeling and Simulation Processes and Practices
Session Chair: Cindy Harrison, U.S. Army PEO STRI
Session Deputy: Andre Balta, Cubic Global Defense
A Methodology for Componentized Simulation Generation Using MBSE Definitions (18238)
Matthew Blair, Torch Technologies; Eric Sholes, Ph.D., U.S. Army AMRDEC; Gregory S. Reed, Ph.D., Torch Technologies
Best Practices in Modeling and Simulation: Multi-Community Benchmarking (18125)
Steve Roermerman, John Volpi, Randal Allen, Lone Star Analysis

S-8 THURSDAY • 29 NOVEMBER • 0830 • ROOM S320B
Synthetic Characters
Session Chair: Alyssa Tanaka Ph.D; Soar Technology
Session Deputy: Andy Wasserman, U.S. Secret Service
A Simulation Independent Framework for Composing Character Populations (18187)
Colin A. Puskaritz, Jason R. Potts, Todd W. Griffith, Ph.D., Brian Muhs, Discovery Machine, Inc.; David Knos, Loyola Enterprises
Controlling Synthetic Characters in Simulations: A Case for Cognitive Architectures and Sigma (18205)
Volkan Ustun, Paul S. Rosenbloom, USC Institute for Creative Technologies; Seyed Sajjadi, Cal State University Northridge; Jeremy Nuttall, USC
Toward Megacity Simulation: A Proposed Pattern-of-Life Definition Standard (18262)
Adam Easton, D.Phil, Romesh Ranawana, D.Phil, SimCentric Technologies

S-9 THURSDAY • 29 NOVEMBER • 0830 • ROOM S320F
Flight-Related Simulation
Session Chair: Tony Krogh, The AEgis Technologies Group, Inc.
Session Deputy: Jimmy Moore, PeopleTec
Rendering Effects of Wind on Vegetation for Flight Simulators (18102)
Abhishek Verma, Tyler Ricks, Rockwell Collins
Validation of a Wind Profiler Using Modeling and Simulation (18103)
Amanda Cinnamon, Sarah Lampke, Dayton Analytics

Machine Learning-based Avionics Simulator for Cybersecurity Intrusion Detection (18094)
Wenlong Zheng, Geoffrey Greenwalt, Rockwell Collins STS

Move, Shoot and Communicate
Session Chair: Eric Jarabak, MARCORSYSCOM PM TRASYS
Session Deputy: Paul Bogard, Air Force Life Cycle Management Center

Deploying Disruptive Technology in an Agile Intelligence Training Environment (18079)
Jason Rogers, Todd Neal, SAIC

Game-based Proving-Grounds Simulation to Assess Driving & Learning Preferences (18003)
Kevin F. Hulme, Ph.D., CMSP, Aaron Estes, Ph.D., University at Buffalo, Matthias Schmid, Ph.D., Clemson University International Center for Automotive Research; Emmanuel Gil Torres, Christopher Hendrick, Shathushan Sivashangaran, University at Buffalo

Performance Assessment of the Communication Infrastructure for the LVC Simulation (18130)
Sangii Lee, Dohyung Kim, Agency for Defense Development, Republic of Korea

Enhancing Medical Training
Session Chair: Angela Alban, SIMETRI, Inc.
Session Deputy: Capt Kathleen Haggard, MARCORSYSCOM PM TRASYS

Using the Advanced Modular Manikin Architecture to Extend the Scope of Medical Task Trainers (18184)
Daniel S. Silverglate, Edward M. Sims, Ph.D., Vcom3D, Inc.; Teresita Sotomayor, Ph.D., ARL HRED STTC

Saving Eyesight Using Simulation (18074)
Teresita Sotomayor, Ph.D., ARL HRED STTC; Margaret P. Bailey, Steve Dorton, Ian T. Dykens, Sonalysts, Inc.

Sexy Simulation in Air, Land, and Sea
Session Chair: Michele Harrison, Naval Education and Training Command (NETC)
Session Deputy: Josh Looper, USAF

A Simulation Based Application for Naval Navigation Training (18109)
Jason Ralph, Ph.D., Lauren Ogren, Naval Undersea Warfare Center (NUWC); Sushil Lewis, Ph.D., Richard Kulesh, Surface Warfare Officer School

A Multi-Role Reconfigurable Trainer for Naval Combat Information Operators (18223)
Bruno Emond, Ph.D., Irina Kondratova, Ph.D., Guillaume Durand, Ph.D., Julio Valdes, Ph.D., National Research Council Canada

Socio-technical Simulation for Denied Environments Training: A Contested Airspace Example (18226)
Benjamin Bell, Ph.D., Eduworks; Winston Bennett, Jr., Ph.D., AFRL; William Clancey, Ph.D., Florida Institute for Human and Machine Cognition

Make Up Your Mind: Learning to Decide
Session Chair: Gary Bauleke, Defense Language and National Security Education Office
Session Deputy: Kevin Gupton, ARL

Building Automated Assessments of Interpersonal Leadership Skills (18010)
Randy Brou, Ph.D., Army Research Institute; Gary Stallings, Sean Normand, Ian Stearns, Northrop Grumman Systems Corporation; Blake Ledford, Consortium Research Fellows Program

Virtual Supplementation of Tactical Decision Making Training (18113)
Randy Brou, Jennifer Tucker, Army Research Institute; Ray Morath, Joanne Barnieu, Jonathan Bryson, John Grantz, Jessie Hyland, ICF

When Expertise Fails: Designing for High Uncertainty Decision Making in Virtual Worlds (18180)
Whit Missildine, Ph.D., Vion, Inc.

If I Had a Simulator
Session Chair: Nick Giannias, CAE, Inc.
Session Deputy: Jennifer Fowlkes, NAWCTSD

A Systematic Approach for Human Patient Simulation Assessment (18090)
Jennifer Winner, AFRL; Col Douglas Hodge, USAF (Ret.), David Malek, National Center for Medical Readiness; Caitlan Rizzardo, Aptima, Inc.; Victoria Krumholtz, Leidos, Inc.

Towards Zero Fratricide – Simulation Enabled Live Field Firing (18265)
MAJ Gareth W. Collier, USA (Ret.), SimCentric Technologies, Australia

Improving Training, Assessments, and Evaluations
Session Chair: Thomas Yanoschik, SAIC
Session Deputy: Maureen Holbert, Booz Allen Hamilton

Bridging the Joint Close Air Support Training Gap (18012)
Emilie A. Reitz, JS J6, Joint Fires Division; Kevin Seavey, Alion Science and Technology; Marsha Mullins, Joint Staff J6

Assessing the Validity of Driver Response: Simulator vs. Real Vehicle (18052)
Rick D. Giovengo, Ph.D., George Buck, Federal Law Enforcement Training Center (FLETC)
Define “Expert”; Characterizing Proficiency for Physiological Measures of Cognitive Workload (18059)
Amy Dideriksen, Jaclyn Hoke, Rockwell Collins, Inc.; Christopher Reuter, Thomas Patry, Thomas Schnell, University of Iowa Operator Performance Lab; Jocelyn Faubert, CogniSens Applied Research Center, University of Montreal, School of Optometry

Validating Distributed Mission Simulation in a Tactical Integrated Training Environment (18202)
Martin Goodwin, Ph.D., Scott Harris, Lauren Reinerman, Ph.D., UCF IST; Alexander Arrieta, TECOM; Robb Dunne, Ph.D.

Achieving Air and Surface Dominance through a Joint Secure Interoperable LVC Solution (18214)
CDR Thomas J. Weaver, USN, NAVAIRSYSCOM; Richard A. Brisbin, Air Combat Effectiveness Consulting Group, LLC

Cyber Training Experimentation through Operation Blended Warrior (18309)
Steven R. Moore, Mathew Chaney, Alion Science and Technology; Larry Flint, Ingenia Services, Inc.

Effective Deployment of LVC-TE on Wide Area Networks (18092)
Luis E. Velazquez, MARCORSYSCOM; Lloyd Wihl, Ha Duong, Jeff Weaver, Jeff Hoyle, Scalable Network Technologies, Inc.

Initial Evaluations of Adaptive Training Technology for Language and Culture (18145)
W. Lewis Johnson, Ph.D., Brenda Lindsay, Alelo, Inc.; Andrew Naber, Ph.D., Alan Carlin, Jared Freeman, Aptima Inc.

Team Training for Enemy Identification Using an Intelligent Tutoring System (18291)
Kaitlyn M. Ouverson, Alec Ostrander, Anastacia MacAllister, Adam Kohl, Jamiahus Walton, Stephen B. Gilbert, Michael C. Dorneich, Eliot Winer, Iowa State University; Anne M. Sinatra, Army Research Laboratory

Maximizing Return on Training Investment in Mixed Reality Systems (18075)
Christina Padron, Ada Mishler, Ph.D., Cali Fidopiastis, Ph.D., Kay Stanney, Ph.D., Design Interactive, Inc.; Gino Fragomeni, RDECOM STTC

Comparison of Augmented and Virtual Reality Training for Spatial Anatomy (18144)
Andrew Wismer, Ph.D., Lauren Reinerman-Jones, Ph.D., Grace Teo, Ph.D., Sasha Willis, Kelsey McCracken, UCF IST; Matthew Hackett, Ph.D., RDECOM STTC

T-5 WEDNESDAY • 28 NOVEMBER • 1400 • ROOM S320E
LVC Training Environments: From Air Dominance to Cyber
Session Chair: Jeff Frost, GaN Corporation
Session Deputy: Marcus Boyd, L3 Technologies - Link Training & Simulations

T-6 WEDNESDAY • 28 NOVEMBER • 1600 • ROOM S320E
Adapt, Deploy, and Train
Session Chair: Janet Weisenford, ICF International
Session Deputy: John Aughey, The Boeing Company

T-7 THURSDAY • 29 NOVEMBER • 0830 • ROOM S320E
Bridging the Reality Gap
Session Chair: Michael Truelove, Army Simulation Proponent & School
Session Deputy: Christine Allen, Ph.D., University of Central Florida

T-8 THURSDAY • 29 NOVEMBER • 1030 • ROOM S320E
Effectiveness of Multinational Exercises
Session Chair: Koren Odermann, MARCORSYSCOM PM TRASYS
Session Deputy: Aaron Judy, NAWCTSD

T-9 THURSDAY • 29 NOVEMBER • 1330 • ROOM S320E
Recommendations from Three Amigos
Session Chair: Sean Carey, USAF AMC/A3TRD
Session Deputy: Mike Robbs, FLETC

Toward Recommendation across Learning System (18330)
J.T. Folsom-Kovarik, Ruben Ramirez-Padron, Cameron Copland, Caitlin Tenison, Soar Technology, Inc.; Ian Davidson, Aubrey Gross, Hongjing Zhang, University of California; LCDR Peter Walker, USN, Office of Naval Research (ONR)
Friday — Professional Development Workshops

Location: Orange County Convention Center, South Concourse, Rooms 330 and 331
Date: Friday, 30 November
Times: 0700 Limited Continental Breakfast and Registration AM Sessions 0800 – 1200 • FULL DAY Session 0800 – 1700
Who may attend? All registrants of I/ITSEC are welcome to attend.
Fees: There is no fee for IITSEC Conference Registrants/Exhibitors – IITSEC badge required for entry.
CEU/CLP: Paid I/ITSEC Conference registrants are eligible to receive CEU/CLP credits. If not a paid attendee, a $45 fee will be charged only if you wish to receive the CEU credits.
Registration: Registration for individual workshops is not required. Workshops fill on a first-come-first-serve basis. Please arrive early for topics that interest you the most — seating is limited. If you wish to receive CEU credits, be sure to request CEUs during your conference registration. You may update your registration to include CEUs at any time at http://www.iitsec.org/attend/registration-fees
Lunch: On own

Coordinated by University of Central Florida Division of Continuing Education. For more information about available programs and services, please visit us at www.ce.ucf.edu
UCF Division of Continuing Education • 3280 Progress Drive, Suite 700, Orlando, FL 32826 • (407) 882-0260 or ceprograms@ucf.edu

ALL PROFESSIONAL DEVELOPMENT WORKSHOPS ARE ELIGIBLE FOR CEU/CLP CREDITS (SEE PAGE 47)

PDW2 • Room S330F • 0800 – 1200
Live-Virtual-Constructive (LVC) Interoperability Techniques

Presenters Ed Powell, Ph.D., Principal at Edward Powell Consulting; Randy Saunders, The Johns Hopkins University Applied Physics Lab

This workshop will provide an overview of the systems engineering issues with regard to integrating disparate military simulations for analysis, training, testing, and other purposes. We will discuss the three major interoperability techniques, the Distributed Interactive Simulation (DIS) standards, the High Level Architecture (HLA) for Modeling and Simulation, and the Test and Training Enabling Architecture (TENA), including descriptions of their architectures and some of their use cases. Recent and planned evolution of each architecture will be explained. A discussion of how these architectures are actually used in the real world and the process for integrating disparate systems in a multi-architecture environment will be discussed. The format of the workshop will be part lecture and part informal discussion/question answer. Participants are encouraged to raise specific topics any time during the workshop.

PDW3 • Room S330G • 0800 – 1200
Certified Modeling & Simulation Professional (CMSP) — CANCELLED

Presenters

This workshop will provide an overview of the Certified Modeling & Simulation Professional (CMSP) certification program, with a particular focus on preparing prospective applicants to take the CMSP exam. The workshop will cover the application and examination process (education/ work experience requirements, application fees, how the exam is administered, etc.), in addition to an in-depth review of the new CMSP Exam Topic Outline. The CMSP exam has been completely revised and refined over the past two years, and new applicants will now have a choice of two tracks — Technical and User/Manager — and will take an entirely new exam. The workshop will be taught by charter/pioneer CMSPs who have been involved in oversight of the CMSP program and/or creation/revision of the CMSP exam. The workshop will not by itself prepare applicants to take the exam, but will provide a thorough overview of exam content and a blueprint for further self-study.

PDW4 • Room S330H • 0800 – 1200
Harnessing the Power of Data Analytics to Optimize Training

Presenters Liz Gehr, Ph.D., Chief Learning Scientist and Laurie Dunagan, M.S., Data Scientist, The Boeing Company

Data analytics offers a principled approach to managing data and making it a valuable resource for understanding complex interactions and improving operations. The training community has unique needs and obstacles when attempting to implement a standard data analytics approach. Although technology enables the collection of data from a variety of sources and a number of aspects of training such as student records, training devices, student performance during training, and student daily activities, the collection, preparation, integration, and understanding of this wealth of data presents many obstacles as well as opportunities. This workshop will provide an overview of common and emerging data analytics methods as they relate to training data. One main focus will be the challenges associated with applying standard data analytics methods in a military training environment. Other topics covered will include how to prepare, transform, and store data for analysis, opportunities in data visualization, and privacy issues. The format of the workshop will involve lecture, and interactive question and answer sessions for each topic addressed. Participants are encouraged to bring up additional topics or examples of training data analytics applications.
After each phase of design, groups will share their designs and discuss their decisions. Participants will be introduced to key methods to ensure that any key design decision addresses gaming and instructional mechanics. Central to our approach is the iterative application of the principles of the method. The workshop will include short elements of presentation, group discussions and break out activities to explore the application of the principles of the method.
STEM
STEM supports and promotes activities encouraging students’ interest and pursuit in Science, Technology, Engineering and Mathematics.

**STEM Today = Prepared Workforce for Tomorrow**

In support of STEM and Workforce Development, I/ITSEC sponsors the following programs:

- Future Leaders Pavilion
- Students at I/ITSEC
- Florida High Tech Corridor Council’s stemCONNECT
- Post Graduate Scholarships (Masters and Doctorate)
- Serious Games Showcase & Challenge
- I/ITSEC Professional Development Workshops
- Central Florida Educators Workshop
- Continuing Education Units
- America’s Teachers at I/ITSEC
- Golf and 5K Fundraiser

Visit the STEM Pavilion at Booths 2473-2781
Learning and Leadership are indispensable to each other. The National Training and Simulation Association and the members of I/ITSEC take great pleasure in welcoming you to the Eleventh Annual Future Leaders Pavilion and Special Session.

We are delighted to host secondary students from such diverse areas as:

- Albany, NY
- Dayton, OH
- Hampton, VA
- Orlando, FL
- Philadelphia, PA
- Sanford, FL

The students who participate in the Future Leaders Pavilion (FLP) are committed to excellence and are enrolled in engineering, computer sciences, mathematics, or modeling and simulation tracks. Projects presented this year will continue the legacy of excellence built by previous Future Leaders.

Please remember to stop by FLP, located in Booth 2681, during your visits to the exhibit floor.

On Wednesday at 1600 in room S320D, please lend support to our Future Leaders as they present their projects during their Special Session – “The Future is Now!”

Join us again at 1415 at the Innovation Showcase, Booth 2288 for an award ceremony acknowledging the work of our Future Leaders.

Students at I/ITSEC
Thursday, 29 November • 0900 – 1400

Over the years, thousands of Central Florida high school students have participated in a unique learning experience by visiting the Exhibitors/Exhibits. The purpose of the I/ITSEC Student Tours is to allow students to experience first-hand, real-world Training, Simulation, and Education solutions that will help bridge the gap between classroom theory and the applied use of Science, Technology, Engineering, and Mathematics (STEM) subjects. Annually, over 600 students, along with 200 school chaperones and volunteer I/ITSEC member escorts, are exposed to special demonstrations and static displays of the Simulation, Training, and Education Industry. Students are able to learn about the basic building blocks required to deliver high fidelity modeling and simulation products across a broad range of training environments. Participating in the I/ITSEC Student Tours on Thursday, 29 November, 2018, will give students a complete understanding of how they can apply the STEM related skills they learn in the classroom to highly successful careers in our Industry. For the first time in 2016, through a partnership of NTSA, the Florida High Tech Corridor Council and other “STEM-U-Lators,” we are making it possible to bring I/ITSEC to the classroom through the stemCONNECT program. To learn more about the I/ITSEC Conference and Student Tours, please contact Bill “Roto” Reuter, I/ITSEC Student Tours Coordinator at roto@r-squaredsolutions.net.
America’s Teachers @ I/ITSEC

I/ITSEC has a long history of supporting the education of students and teachers through visits to the conference. Since the America’s Teachers at I/ITSEC program began in 2008, we have hosted teachers from Arizona, California, Florida, Georgia, Maryland, Montana, New York, Ohio, Rhode Island, Tennessee, Texas, and Virginia. As part of I/ITSEC’s efforts to further education in Science, Technology, Engineering, and Mathematics (STEM), teachers and administrators from across the country have been invited to attend the conference. The America’s Teachers at I/ITSEC Program consists of an orientation session, attendance at the Modeling and Simulation stemCONNECT, guided tours of the Exhibit Hall, and attendance at tutorials, paper sessions, and special events. The Teachers will be in sessions and visiting the Exhibit Floor on Monday through Wednesday. Please watch for their Red, White and Blue Ribbons and be ready to engage in conversations about STEM and Future Workforce initiatives. This program is supported by the National Training and Simulation Association and its industry members.

Educators

Workshop to Introduce Simulation into the Physics Classroom – I/ITSEC 2018

stemCONNECT

A program of the Florida High Tech Corridor

The Florida High Tech Corridor (The Corridor) is proud to partner with I/ITSEC once again to highlight the 23-county Corridor region’s thriving Modeling, Simulation and Training (MS&T) sector.

The evolution of technology has enabled Corridor programs to transform in ways unimaginable more than 20 years ago, specifically stemCONNECT. This program truly does make the connection between academia and private industry by bringing together students and teachers in classrooms with experts in science, technology, engineering and math (STEM) for engaging presentations through video conferencing tools. Indeed, since the first virtual session in 2013, stemCONNECT has already introduced high tech careers in MS&T and other sectors to nearly 13,000 students and teachers.

The Corridor’s stemCONNECT team is excited to host two programs during I/ITSEC – one for educators and one for students – to showcase MS&T technology and related career opportunities. Educators will join stemCONNECT for guided tours of industry exhibits and presentations from well-known experts in the field, including representatives from the Institute for Simulation and Training at the University of Central Florida, the National Center for Simulation and the Florida Advanced Technological Education Center (FLATE) – an initiative of the University of South Florida, Hillsborough Community College and St. Petersburg College funded by the National Science Foundation. Students will learn about the role of robotics in MS&T by programming a LEGO™ robot and interacting with an NAO™ robot. stemCONNECT will also guide students on a tour of industry exhibits with robotics demonstrations.

For those who cannot attend, stemCONNECT will be live streaming a tour of the I/ITSEC convention floor.
Great excitement awaits you in Booth #2481 at the 13th annual Serious Games Showcase & Challenge (SGS&C)!

The SGS&C provides a showcase of best-in-class learning games submitted by business, government and student developers, and awards noteworthy games to recognize their achievements. The true uniqueness of the SGS&C is that every I/ITSEC “player” has the chance to play the games, talk with the developers, and cast a vote for the coveted SGS&C People’s Choice Award.

The SGS&C brings international award winning games to you through partnerships with the Simulation Australasia host of the Australasian Simulation Congress (ASC) SGS&C, and South America’s Brazilian Independent Games (BIG) Festival. These international winners automatically earn spots as finalists in the SGS&C, are eligible for awards, and are featured at I/ITSEC on the exhibit floor. Come see the diverse approaches taken by these international participants and meet their developers.

This year will once again highlight games that employ characteristics or techniques that enhance the game in a new or different way through the competition for the Innovation Award. The innovative technique can be hardware integration, instructional design, game design, content topic, or a combination thereof. Drop by the booth to see these innovative technologies in action!

The seven categories of SGS&C winners are announced at the Awards Ceremony on Thursday, November 29 at 1330 in the Innovation Showcase, Booth 2288: Best Business-Developed Serious Game; Best Government-Developed Serious Game; Best Student-Developed Serious Game; Best XR Serious Game; Innovation Award; Students’ Choice Award; and finally, what some might consider the most prestigious award, the People’s Choice Award.

And remember, the People’s Choice Award is based on votes from you! Your I/ITSEC badge includes a special SGS&C ballot that allows you to help determine the winner. Be sure to vote before the deadline on Wednesday, November 28th!

Check out the Serious Games Showcase & Challenge.

For more information, contact Jenn McNamara: jmcnamara@breakawayltd.com

7 Awards!

Students’ Choice
Innovation
Business Student
Government
XR (AR/VR/MR)
People’s Choice
STEM Pavilion

Keeping the workforce pipeline filled with students pursuing STEM degrees is vital to the MS&T industry. It takes all of us to accomplish that. Each year the STEM Pavilion showcases organizations and programs that are successfully inspiring students and are preparing educators to teach and motivate them to pursue STEM degrees. We invite you to visit the Pavilion to learn more about the organizations and agencies active in the local community and across the country that you can support as a business or parent or community leader. Learn about programs available for students and how you can engage, mentor and help prepare them for future careers. Engage with educators who want to learn from you about the MS&T industry. Find ways to volunteer. Get involved! Your experience is needed.

Teacher Workshop

The annual I/ITSEC Teacher Workshop gives teachers a chance to be students and engages teachers in hands-on learning by letting them try new ideas for their classroom. It facilitates dialogue between Project-Based Learning (PBL) and industry professionals, while providing a set of relevant and accessible resources for teachers to use throughout the year. Teachers representing counties throughout Florida participate. This year the educators will be on the exhibit floor with tour guides visiting key local MS&T exhibitors to learn about the industry, STEM skills needed and career opportunities available. If you see one of our Teacher Tour groups on Wednesday, stop and introduce yourself!

Visit www.centralfloridaSTEM.org/parents for more Parent resources

Visit www.centralfloridaSTEM.org/student for more Student resources

Visit www.centralfloridaSTEM.org/educators for more Educator resources

The Central Florida STEM Education Council mission is to collaboratively coordinate and plan STEM education efforts preparing and encouraging pre-college students to enter technical fields of study and to pursue employment in the Central Florida high-tech workforce.

Building a Brighter Future TODAY!
28th Annual RADM Fred Lewis I/ITSEC Postgraduate Scholarship Recipients

Kamryx Davis
University of Central Florida
Modeling & Simulation

Katelyn Kapalo
University of Central Florida
Modeling & Simulation

Ethan Mark
Georgia Tech
Industrial and Systems Engineering

Mason Nixon
University of Alabama
Huntsville
Electrical Engineering

Kaitlyn Ouverson
Iowa State
Human Computer Interaction

Daphne Whitmer
University of Central Florida
Human Factors and Cognitive Psychology

Josiah Wong
University of Central Florida
Computer Science

2nd Annual Leonard P. Gollobin Graduate Scholarship Recipients

Samantha Dubrow
George Mason
I/O Psychology

Melynda Hoover
Iowa State
ME and Human Computer Interaction

RADM Fred Lewis, USN (Ret.)
President, NTSA • 1995 - 2012

These scholarships have been named the RADM Fred Lewis Postgraduate I/ITSEC Scholarship in honor of the former President of the National Training and Simulation Association (NTSA).

IMPORTANT DATES FOR 2019

When to Apply
Applications must be postmarked by 28 June 2019. (Don’t Delay!)

How to Apply
See http://www.iitsec.org/education/students-and-teachers/scholarships for complete application details.

Award Announcement
9 August 2019

Post Graduate Scholarships
Looking for Future Leaders in the Simulation, Training and Education Community. Learn more about the I/ITSEC community at www.iitsec.org.

Eligibility
U.S. Citizens • Full-time Masters or Doctoral students (complete undergraduate work by Spring 2019).

See Study Disciplines at http://www.iitsec.org/education/students-and-teachers/scholarships

Award Amounts
$10,000 (Doctoral Candidates)
$5,000 (Masters Candidates)

Available for Fall 2019

Be our guest at I/ITSEC December 2-6, 2019

Direct Further Inquiries and Provide Submissions
Lewis-I/ITSEC Scholarship Program
c/o The National Training and Simulation Association
2101 Wilson Boulevard, Suite 700
Arlington, VA 22201
(703) 247-9480 or dlangelier@ndia.org

Over $400,000 in scholarship awards distributed to date
**Attendee Luncheon**
Lunch will be served Tuesday – Thursday at 1200. You must enter & exit luncheon through the Exhibit Hall. Full Conference registrants will receive lunch tickets with their registration materials. Exhibitors and Visitors may purchase a ticket for $35.00 at the main Registration Station. Lunch tickets are dated; you must present the current day’s lunch ticket for entry.

**Connections Lounge & Grill**
Stop by and relax in the Connections Lounge & Grill for a bite to eat or a refreshing drink and then connect to your email or review the I/ITSEC program online to plan your next move at the conference. Connections Lounge & Grill will be located in Booth 100, South Exhibit Hall.

**Show Management Office**
Room S220B • The Show Management Office will be staffed during show hours for all questions regarding booth space, rules, regulations, exhibitor locators, security and late/early passes. Registration will not be made available at the Show Management Office.

**National Training & Simulation Association (NTSA)**
Booth 2281 • The National Training and Simulation Association (NTSA) is America’s premier organization representing the interests of the modeling and simulation community. 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 the growth and overall dynamism of the industry.

**Service Booths**

<table>
<thead>
<tr>
<th>Booth</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEO STRI</td>
<td>439/1433</td>
</tr>
<tr>
<td>PM TRASYS</td>
<td>1539</td>
</tr>
<tr>
<td>NAWCTSD</td>
<td>249/1439</td>
</tr>
<tr>
<td>USAF</td>
<td>1533</td>
</tr>
<tr>
<td>U.S. Army RDECOM</td>
<td>329</td>
</tr>
</tbody>
</table>

**International Pavilions**

<table>
<thead>
<tr>
<th>Pavilion</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1149</td>
</tr>
<tr>
<td>Australian</td>
<td>2619</td>
</tr>
</tbody>
</table>

**Healthcare Pavilion**
Society for Simulation in Healthcare 2473, 2479, 2483, 2485, 2580
Recognizing that simulation represents a paradigm shift in health care education, SSH promotes improvements in simulation technology, educational methods, practitioner assessment, and patient safety that promote better patient care and can improve patient outcome.
Innovation Showcase

Presentations within the Innovation Showcase are led by cutting-edge exhibiting companies that are knowledgeable on the various subject matter within the M&S industry. Mark your calendar to stop by one of the 30-minute sessions to hear what is new and exciting in M&S! Be sure to check out the official I/ITSEC website and onsite signage for updated participants.

Wednesday, 28 November

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>8K Projectors: Pixel Management of 33 Million Pixels</td>
<td>Digital Projection</td>
</tr>
<tr>
<td>1045</td>
<td>Cyber Effects for the Multi-domain Operations Warfighter</td>
<td>Metova Federal LLC, (CyberCENTS)</td>
</tr>
<tr>
<td>1130</td>
<td>Virtual Reality and AI: Infinitely Scalable Platforms for Training and Simulation</td>
<td>Brightline Interactive</td>
</tr>
<tr>
<td>1215</td>
<td>Artificial Intelligent Automatic Target Recognition</td>
<td>Archarithms, Inc.</td>
</tr>
<tr>
<td>1300</td>
<td>Virtual Loadmaster Training System</td>
<td>Pennant International Ltd.</td>
</tr>
<tr>
<td>1345</td>
<td>Leveraging Analytics to Drive Training Efficiency</td>
<td>BNH Expert Software Inc.</td>
</tr>
<tr>
<td>1430</td>
<td>Migrating Simulations to Servers, Virtual Machines, and Clouds</td>
<td>VT MAK</td>
</tr>
<tr>
<td>1515</td>
<td>Portable Simulation: Keeping People in Peak Performance, Wherever They May Be</td>
<td>Pivot Maritime International</td>
</tr>
<tr>
<td>1600</td>
<td>Acceptable and Unacceptable Behaviour Training in VR</td>
<td>Equal Reality</td>
</tr>
</tbody>
</table>

(As of 30 October 2018)
Exhibitor Networking Event

Tuesday, 27 November • 1700 - 1830 • Exhibit Hall

Be sure to kick off I/ITSEC 2018 with a stop by one of the participating booths at the I/ITSEC Exhibitor Networking Event. What a great way to view the latest technology while networking with exhibitors and your fellow attendees. Be sure to check out the official I/ITSEC website and onsite signage for updated participants.

<table>
<thead>
<tr>
<th>Booth #</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>283</td>
<td>Cole Engineering Services, Inc. (CESI)</td>
</tr>
<tr>
<td>339</td>
<td>Soar Technology, Inc.</td>
</tr>
<tr>
<td>613</td>
<td>Aptima, Inc.</td>
</tr>
<tr>
<td>1165</td>
<td>Scalable Display Technologies, Inc.</td>
</tr>
<tr>
<td>1170</td>
<td>Improbable</td>
</tr>
<tr>
<td>1710</td>
<td>JVC Visual Systems</td>
</tr>
<tr>
<td>2101</td>
<td>Aegis Technologies Group</td>
</tr>
<tr>
<td>2149</td>
<td>Krauss-Maffei Wegmann</td>
</tr>
<tr>
<td>2619</td>
<td>Team Defence Australia</td>
</tr>
<tr>
<td>2641/2741</td>
<td>Stirling Dynamics &amp; SGB Enterprises, Inc.</td>
</tr>
</tbody>
</table>
Launch Pad

A call was made to the training, education, and simulation community of practice to demonstrate their game changing innovations to key government decision makers and procurement officials at I/ITSEC 2018. The community submitted white papers describing their innovation, which was reviewed via a competitive process, where the best of the best were selected by a panel of government and industry members primarily from Team Orlando. The selected demonstrators employ technological innovations, re-define training and simulation processes, or create something entirely new that is going to change the way we train, simulate and educate. The showcased initiatives may be included in future acquisition efforts.

The Launch Pad Special Event targets both I/ITSEC attendees and select government acquisition stake holders. Current acquisition programs as well as Science and Technology programs will be at I/ITSEC to assess Launch Pad technologies depending on the technology readiness levels of responses submitted. Speed to the market is a key acquisition principle. Launch Pad will provide an opportunity to highlight technology that may be appropriate for rapid prototyping/rapid fielding acquisition initiatives.

<table>
<thead>
<tr>
<th>Tuesday, 27 November – Session 1 (Augmented and Virtual Reality)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600 Improving Aircraft Readiness with the Augmented Reality Maintenance Aid (ARMA)</td>
</tr>
<tr>
<td>1630 Immersive Pilot – Synthetic Teammate for Training Crew Coordination Competencies</td>
</tr>
<tr>
<td>1700 VR Simulators for Air Force Pilot Training</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wednesday, 28 November – Session 2 (Interoperability and LVC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0945 Utilizing ASI’s Transport Delay Test Kit to Measure Your Device’s Latency</td>
</tr>
<tr>
<td>1015 Simulation Configuration and Environment Control (SimChEC) – Enhancing LVC Training Readiness</td>
</tr>
<tr>
<td>1045 Challenge Accepted: Automating Cybersecurity Compliance with Cybernet Security Advisor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wednesday, 28 November – Session 3 (Performance Measurement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600 SAIL3: The Sailor Adaptive Intelligent Life-Long Learning System</td>
</tr>
<tr>
<td>1630 Human Behavior: Next Generation Training</td>
</tr>
<tr>
<td>1700 Counter Bias Training Simulation (CBTsim): Revolutionizing Implicit Bias Training</td>
</tr>
<tr>
<td>Vendor Name</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>3D perception</td>
</tr>
<tr>
<td>4C Strategies</td>
</tr>
<tr>
<td>505th Command and Control Wing</td>
</tr>
<tr>
<td>5DT, Inc.</td>
</tr>
<tr>
<td>A. Harold &amp; Associates, LLC</td>
</tr>
<tr>
<td>Acme Worldwide Enterprises, Inc.</td>
</tr>
<tr>
<td>ACS Hydraulics, Inc.</td>
</tr>
<tr>
<td>Adacel Systems, Inc.</td>
</tr>
<tr>
<td>Adder Technology</td>
</tr>
<tr>
<td>Adobe Systems, Inc.</td>
</tr>
<tr>
<td>Advanced Distributed Learning (ADL)</td>
</tr>
<tr>
<td>Advanced IT Concepts, Inc.</td>
</tr>
<tr>
<td>Advanced Simulation Technology, Inc.</td>
</tr>
<tr>
<td>Advanced Tactical Training System</td>
</tr>
<tr>
<td>Aechelon Technology, Inc.</td>
</tr>
<tr>
<td>AECOM</td>
</tr>
<tr>
<td>Aegis Technologies</td>
</tr>
<tr>
<td>Aero Simulation, Inc.</td>
</tr>
<tr>
<td>Aerotronics</td>
</tr>
<tr>
<td>Aimereon, Inc.</td>
</tr>
<tr>
<td>Air National Guard Trainer Development</td>
</tr>
<tr>
<td>Alion Science and Technology</td>
</tr>
<tr>
<td>AMD</td>
</tr>
<tr>
<td>Ameripack</td>
</tr>
<tr>
<td>AMS Tech Group</td>
</tr>
<tr>
<td>Aptima, Inc.</td>
</tr>
<tr>
<td>ARA Virtual Heroes Division</td>
</tr>
<tr>
<td>Archarithms, Inc.</td>
</tr>
<tr>
<td>Aries Security</td>
</tr>
<tr>
<td>Army Modeling &amp; Simulation Office</td>
</tr>
<tr>
<td>AT&amp;T</td>
</tr>
<tr>
<td>Athena-Tek</td>
</tr>
<tr>
<td>Atlantic Canada Aerospace &amp; Defence Association</td>
</tr>
<tr>
<td>Autocomp Management</td>
</tr>
<tr>
<td>AVADirect Custom Computers</td>
</tr>
<tr>
<td>Aviation Instrument Technologies, Inc.</td>
</tr>
<tr>
<td>AVT Simulation</td>
</tr>
<tr>
<td>BAE Systems</td>
</tr>
<tr>
<td>BAGIRA SYSTEMS LTD.</td>
</tr>
<tr>
<td>Barco</td>
</tr>
<tr>
<td>Battlespace Simulations, Inc.</td>
</tr>
<tr>
<td>B-Design3D</td>
</tr>
<tr>
<td>Bhirle Applied Research, Inc.</td>
</tr>
<tr>
<td>BIONATICS</td>
</tr>
<tr>
<td>Blue Marble Geographics</td>
</tr>
<tr>
<td>BNH Expert Software, Inc.</td>
</tr>
<tr>
<td>Boeing Company</td>
</tr>
<tr>
<td>Bohemia Interactive Simulations</td>
</tr>
<tr>
<td>Brain Vision, LLC</td>
</tr>
<tr>
<td>Brunner Elektronik AG</td>
</tr>
<tr>
<td>Bugeye Technologies</td>
</tr>
<tr>
<td>CZ Technologies, Inc.</td>
</tr>
<tr>
<td>CAE</td>
</tr>
<tr>
<td>CAE Healthcare</td>
</tr>
<tr>
<td>Calytrix</td>
</tr>
<tr>
<td>Canon USA, Inc.</td>
</tr>
<tr>
<td>Capewell Aerial Systems</td>
</tr>
<tr>
<td>CATI Training Systems</td>
</tr>
<tr>
<td>CERT Division of the Software Engineering</td>
</tr>
<tr>
<td>Institute at Carnegie Mellon</td>
</tr>
<tr>
<td>Charles River Analytics</td>
</tr>
<tr>
<td>Circadence Corporation</td>
</tr>
<tr>
<td>Cisco Systems</td>
</tr>
<tr>
<td>Clear-Com, LLC</td>
</tr>
<tr>
<td>Clindenbeard</td>
</tr>
<tr>
<td>CM Labs Simulations</td>
</tr>
<tr>
<td>Concurrent Real-Time</td>
</tr>
<tr>
<td>Connections Café and Lounge</td>
</tr>
<tr>
<td>Control Products Corporation</td>
</tr>
<tr>
<td>Corvalent</td>
</tr>
<tr>
<td>Craig Technologies</td>
</tr>
<tr>
<td>Cranfield Aerospace Solutions, Ltd.</td>
</tr>
<tr>
<td>Cruden B.V.</td>
</tr>
<tr>
<td>Cubic</td>
</tr>
<tr>
<td>Cyber Security &amp; Information Systems Information Analysis Center (CSIAC)</td>
</tr>
<tr>
<td>Cyber Training Technologies</td>
</tr>
<tr>
<td>Cybernet Systems Corporation</td>
</tr>
<tr>
<td>Cyviz</td>
</tr>
<tr>
<td>David Clark Company Incorporated</td>
</tr>
<tr>
<td>Davidson Technologies, Inc.</td>
</tr>
<tr>
<td>Dedicated Computing</td>
</tr>
<tr>
<td>Dell</td>
</tr>
<tr>
<td>Design Concepts</td>
</tr>
<tr>
<td>Design Interactive, Inc.</td>
</tr>
<tr>
<td>Diamond Visionics</td>
</tr>
<tr>
<td>DIGINEXT</td>
</tr>
<tr>
<td>Digital Projection</td>
</tr>
<tr>
<td>Dimension Works LLC</td>
</tr>
<tr>
<td>Displays &amp; Optical Technologies, Inc.</td>
</tr>
<tr>
<td>Disti Corporation</td>
</tr>
<tr>
<td>DMSCO</td>
</tr>
<tr>
<td>domeprojection.com GmbH</td>
</tr>
<tr>
<td>Doron Precision Systems, Inc.</td>
</tr>
<tr>
<td>Double Shoot</td>
</tr>
<tr>
<td>Drive Square Inc.</td>
</tr>
<tr>
<td>Driven Technologies, Inc.</td>
</tr>
<tr>
<td>EZM Technologies B.V.</td>
</tr>
<tr>
<td>EBC Electronics Corp</td>
</tr>
<tr>
<td>EDM Ltd.</td>
</tr>
<tr>
<td>Eduworks Corporation</td>
</tr>
<tr>
<td>ELB Education</td>
</tr>
<tr>
<td>Elbit Systems, Ltd.</td>
</tr>
</tbody>
</table>
NTSA Sustaining Member • NTSA Regular Member • NTSA Associate Member

Electronics and Telecommunications Research Institute 2765
Electro-Optical Imaging, Inc. 517
eMDee Technology, Inc. 658
Engineering & Computer Simulations, Inc. 1135
Engineering & Manufacturing Services, Inc. (EMS) 2757
ESP, Inc. 2038
Esteline 827
ETSA 2185
EWA GSI 525
Explotrain, LLC 1956
Extron Electronics 1123
F2Si 733
FAA COE TTHP 420
FAAC, Inc. 1281
Fain Models, Simulation Systems 726
FARO Technologies, Inc. 660
Feel Good, Inc. 2715
FermiTron, Inc. 2762
Fidelity Technologies 813
FlightSafety International 1401
FoxGuard Solutions 2123
Frasca International, Inc. 549
FRONTIS Corporation 307
Future Leaders Pavilion 2681
Gaumard Scientific 2280
GBL Systems Corp. 2671
GBvi Ltd. 2615
GCI Distribution 554
Gemstar Manufacturing 872
General Dynamics 1463
George Mason University Serious Games Institute 537
Georgia Tech Research Institute 2214
Global Knowledge 882
GlobalSim, Inc. 2115
GSA FAS & FEDSIM 459
Hampden Engineering Corporation 616
Harris Corporation 606
HP 1932
Huntington Ingalls Industries 1215
IHSE USA, LLC 2089
Immersive Display Solutions, Inc. 1273
Immersive Wisdom Inc. 513
iMotions 980
Improbable 1170
Industrial Smoke & Mirrors 2437
Industrial Training International (ITI) 2183
Inert Products LLC 1957
Innovation Showcase 2288
Innovative Tactical Training Solutions 781
Inovex Simulation & Training 880
Insight Public Sector 319
Integration Innovation Inc. 1589
Inter-Coastal Electronics Inc. 2664
iSimulate 2479
Israel Aerospace Industries Ltd. 1939
ITEC 2725
ITS 2714
J.F. Taylor, Inc. 2073
IANUS Research Group, Inc. 771
JIRACOR 2759
JRM Technologies 2055
JVC Visual Systems 1712
Katmai 2273
KBRwyle 2735
Kentucky Trailer 401
KGS-TraumaFX 413
Knowledge Based Systems, Inc. 523
Kratos Training Solutions 1223
Krauss-Maffei Wegmann GmbH & Co. KG 2149
L3 Technologies, Inc. 1449
Laerdal Medical 2473
Laser Shot 2224
Launch Pad 1086
Leidos 1770
Leonardo DRS, Inc. 649
Leyard and Planar 635
LGS Innovations 455
Lockheed Martin 2248
LSI, Inc. 840
LuxCarta 865
Manus VR 2727
Marathon Targets 1117
Marine Corps System Command (PM TRASYS) 1539
MASA Group 2459
Mass Virtual, Inc. 2711
Matrox Graphics 627
MBX Systems 2083
Medvision 2580
Meggitt Training Systems 1421
MEI Technologies, Inc. 883
Merlin Simulation, Inc. 654
MetaVR 1249
Metova Federal, LLC (CyberCENTS) 621
Military Officers Association of America (MOAA) 2270
Mittler Report 2182
MONCH Publishing Group 2613
Moog 2026
MS&T Magazine - Halldale Group 1933
MSI Computer Corp. 2661
MT2 Firing Range Services 407
National Center for Simulation 2109
National Defense Industrial Association (NDIA) 2281
National Defense Magazine 2281
National Guard Association of the United States 622
National Training & Simulation Association (NTSA) 2281
NATO 2471
NAVAIR CREATIVE Lab 556
Newton Design, LLC 256
Nexter Systems 2149
Northrop Grumman 1949
Norxe 2729
NSC 2659
NSTXL 533
NVIS, Inc. 2188
Oakwood Controls 2605
Old Dominion University Online 2071
Operation Blended Warrior (OBW) 555
Operative Experience, Inc. 453
OPFOR Solutions, Inc. 1179
OptiTrack 1872
Orange Technical College – Launch Site 2279
ORBIT Electronics Group 2021
Oshkosh Speciality Vehicles 507
Panel Products, Inc. 2081
Paramount Panels, Inc. 552
Parsons 1032
PatchPlus Consulting, Inc. 512
PATCO Electronics 2653
Pathfinder Systems, Inc. 607
Patriot Products LLC 2633
Pennant International Ltd. 325
Perspecta 1234
Pinnacle Solutions, Inc. 735
Pitch Technologies 1927
PLEXSYS Interface Products, Inc. 1473
PLW Modelworks 1080
Polhemus 2015
Potawatomi Business Development Corp - Federal Group 254
Power Innovations Int’l, Inc. 1980
Pragmatics, Inc. 1969
Pratt & Miller Engineering 1700
Pratt & Whitney 657
Precision Flight Controls, Inc. 1278
Presagis 2427
Prevalance, Inc. 773
PTC 557
Pulau Corporation 2649
Q4 Services 2208
Quadrant Simulation Systems, Inc. 1915
QuantaDyn Corporation 801
Quantified Design Solutions, LLC 258
Quantum 3D, Inc. 1048
Questionmark 887
Rapid Prototyping Services 863
RAVE Computer 700
Ravenswood Solutions 2461
RAYDON Corporation 1238, 2235
Raytheon 1036
Real-Time Innovations 2611
Red Lotus Technologies 2056
RGB Spectrum 601
Rheinmetall AG 2213
Rigil Corporation 260
Rite in the Rain 451
Rockwell Collins 2201
RPA Electronic Solutions, Inc. 2601
RSi Visual Systems 1901
RUAG Defence 2411
SA Photonics 620
Saab Defense and Security 2449
Safety Training Systems, Inc. 2465
SAIC 1481
Scalable Display Technologies 1165
SCALEABLE Network Technologies 1132
Sea Box, Inc. 2180
Senspex, Inc. 618
Serious Games Challenge 2481
Serious Simulations LLC 2235
SGB Enterprises, Inc. 2641
Shepherd Media 550
SimBlocks LLC 2760
SimCentric Technologies 2235
SimiGon, Inc. 1701
SIMmersion LLC 2222
SimPhonics, Inc. 2061
SimSTAFF Technical Services 2057
Simtek, Inc. 721
Simthetiq 1026
Simulation and Control Technologies 1159
SimulationDeck LLC 870
Simulator Solutions 419
SimX 2485
SMART EYE AB 980
Soar Technology, Inc. 339
Society for Simulation in Healthcare 2483
Sonality 500
Sony Electronics, Inc. 2139
Spectrum Industries, Inc. 652
ST Electronics 1139
Stirling Dynamics 2741
Strategic Systems, Inc. 301
STS International, Inc. 2712
Symbolic Displays, Inc. 2271
Team Defence Australia 2619
TEC Simulation 650
Tech Wizards, Inc. 1938
Technical Systems Integrators, Inc. 529
Ternion Corporation 501
<table>
<thead>
<tr>
<th>Name</th>
<th>Booth</th>
</tr>
</thead>
<tbody>
<tr>
<td>TerraSim, Inc.</td>
<td>2235</td>
</tr>
<tr>
<td>Thales</td>
<td>1762</td>
</tr>
<tr>
<td>Theissen Training Systems, Inc.</td>
<td>1139</td>
</tr>
<tr>
<td>Thinklogical, A Belden Brand</td>
<td>2728</td>
</tr>
<tr>
<td>Tobii Pro</td>
<td>632</td>
</tr>
<tr>
<td>Trailer Transit, Inc.</td>
<td>521</td>
</tr>
<tr>
<td>TrianGraphics</td>
<td>1178</td>
</tr>
<tr>
<td>Trideum Corporation</td>
<td>2227</td>
</tr>
<tr>
<td>TRU Simulation + Training</td>
<td>1201</td>
</tr>
<tr>
<td>Turning Technologies</td>
<td>425</td>
</tr>
<tr>
<td>U.S. JACLEAN, INC.</td>
<td>720</td>
</tr>
<tr>
<td>UFA, Inc.</td>
<td>1920</td>
</tr>
<tr>
<td>United Electronic Industries (UEI)</td>
<td>1158</td>
</tr>
<tr>
<td>U.S. Army PEO STRI</td>
<td>1433</td>
</tr>
<tr>
<td>U.S. Army RDECOM</td>
<td>329</td>
</tr>
<tr>
<td>U.S. Navy/NAWCTSD</td>
<td>1439</td>
</tr>
<tr>
<td>USAF Expeditionary Operations School</td>
<td>558</td>
</tr>
<tr>
<td>USAF Training Systems Product Group</td>
<td>1533</td>
</tr>
<tr>
<td>VATC – Visual Awareness Technologies &amp; Consulting</td>
<td>520</td>
</tr>
<tr>
<td>VectorZero, Inc.</td>
<td>515</td>
</tr>
<tr>
<td>Veraxx Engineering Corporation</td>
<td>1900</td>
</tr>
<tr>
<td>Vertex Solutions Group</td>
<td>2665</td>
</tr>
<tr>
<td>VIOSO</td>
<td>673</td>
</tr>
<tr>
<td>VRTra</td>
<td>821</td>
</tr>
<tr>
<td>Virtual Flight Academy</td>
<td>553</td>
</tr>
<tr>
<td>Virtual Motion Labs</td>
<td>628</td>
</tr>
<tr>
<td>Vricon</td>
<td>681</td>
</tr>
<tr>
<td>VT MAK</td>
<td>1413</td>
</tr>
<tr>
<td>Wacom</td>
<td>2669</td>
</tr>
<tr>
<td>Westar Display Technologies, Inc.</td>
<td>2181</td>
</tr>
<tr>
<td>WILL Interactive</td>
<td>2034</td>
</tr>
<tr>
<td>WITTENSTEIN Aerospace &amp; Simulation</td>
<td>835</td>
</tr>
<tr>
<td>Women In Defense, A National Security Organization (WID)</td>
<td>2281</td>
</tr>
<tr>
<td>WorldViz VR</td>
<td>2727</td>
</tr>
<tr>
<td>World Wide Technology</td>
<td>522</td>
</tr>
<tr>
<td>Yorktown Systems Group, Inc.</td>
<td>506</td>
</tr>
<tr>
<td>ZedaSoft, Inc.</td>
<td>1573</td>
</tr>
<tr>
<td>Zeiss</td>
<td>1127</td>
</tr>
</tbody>
</table>
Committees
CONFERENCE COMMITTEE • COUNCIL OF CHAIRS

Conference Committee
Service Executives

Service Principals

Navy
Marine Corps
Air Force

Army

OSD/Joint Executive

OSD Principal

Conference Chair
Deputy Conference Chair
Program Chair
Deputy Program Chair
Subcommittee Chairs

Education
Emerging Concepts and Innovative Technologies
Human Performance, Analysis and Engineering
Policy, Standards, Management and Acquisition
Simulation
Training

Best Paper Committee Chair

Tutorial Board Chair

Best Tutorial Committee Chair
Education and Training Advisor

Scholarship Committee Chair

Director for International Programs

Strategic Planning and STEM Committee Chair

Special Event Coordinator

Website and Social Media Advisor

Conference Sponsor
President
Vice President
Director of Exhibits
Media Relations/Communications
Operations
Protocol Coordinator
Historian
Veterans Coordinator

Council of Chairs

The Council of Chairs is a special advisory group to the NTSA Sponsor and to the I/ITSEC Committee organization. The exclusive membership comprises the previous I/ITSEC Conference chairs. Drawing on their cumulative experience, these leaders provide a unique perspective and advice for the ongoing mission of I/ITSEC.

1979 A.W. Herzog (Decceased) and G.V. (Vince) Amico (Decceased)
1980 Robert W. Layne (Decceased)
1981 Kurt Merl
1982 James A. Gardner, Ph.D. (Decceased)
1983 John Todd (Decceased)
1984 Ralph T. Davis (Decceased)
1985 John W. Hammond
1986 Rodney S. Rougelt
1987 David P. Crane (Decceased)
1988 Thomas E. Sitterley, Ph.D. (Decceased)
1989 Arthur L. Bannman
1990 Steve Selcho
1991 Donald M. Campbell
1992 Jerry Jerome
1993 J.D. (Jack) Drewett
1994 G.P. (Pres) McGee
1995 Judith Riess, Ph.D.
1996 Ed Ward
1997 Dennis Shockley
1998 Jim Cooksey
1999 Stan Aronberg (Decceased)
2000 Ron Johnson (Decceased)
2001 Debbie L. Berry
2002 Paul Bernhardt
2003 Bill Walsh
2004 Buck Leahy
2005 Steve Swaine
2006 Steve Detro
2007 Amy Henninger, Ph.D.
2008 Dan Currie
2009 DeLloyd Voorhees, Jr.
2010 Jim Wall, Ph.D.
2011 Mike Genetti, Ph.D.

2012 Amy Motko
2013 Cyndi Turner Krisan
2014 Ron Smits
2015 Brent Smith
2016 Janet Spruill
2017 David Hutchings

CAPT Tim Hill, USN, Executive Officer, NAWCTSD and Naval Support Activity
Col “Lou” Lara, USMC, Program Manager, MARCORSYSCOM PM TRASYS
Col Philip E. Carpenter, USAF, Senior Materiel Leader, Simulators Program Office, Air Force Materiel Command
BG Michael E. Sloane, USA, Program Executive Officer for Simulation, Training and Instrumentation
Gregory Knapp, OSD (P&R) Force Readiness & Training

Diana Teel, NAWCTSD
Martin Bushika, MARCORSYSCOM PM TRASYS
Tony DalSasso, Simulators Program Office, Air Force Materiel Command
Jesse Campos, U.S. Army PEO STRI
Shep Barge, Ph.D., OSD (P&R)/JAEC
Elizabeth Biddle, Ph.D., The Boeing Company
Brian Holmes, Quantum3D Government Systems
Robert Kleinhample, SAIC
Jennifer Arnold, Booz Allen Hamilton, Inc.

Jim Threlfall, C2 Technologies, Inc.
Brian Overy, Aechelon Technology
Robert Snyder, Whitney Bradley and Brown Inc.
Jeffrey Raver, SAIC
Favio Lopez, Trideum Corporation
Paul Lyon, Esterline
Jim Pharmer, Ph.D., NAWCTSD
David Milewski, CAE USA MSI
Lee Lacy, Ph.D., The DiSTI Corporation
VADM Al Harms, USN (Ret.)
David Hutchings, DDH and Associates, LLC
K. Denise Threlfall, Ph.D., Agehya Global Business Solutions, Inc.
Linda Brent, Ed.D., The ASTA Group
Matt Spruill, Trideum Corporation
John Killilea, NAWCTSD AIR-4651 Human Performance Science & Technology Branch
National Training and Simulation Association
RADM James Robb, USN (Ret.)
Debbie Langelier, CEM
Shannon Burch
John Williams
Len Kravitz, LRK Associates, Inc.
Steve Detro, Detro Consulting LLC
Carol Denton
DeLloyd Voorhees, General Dynamics Information Technology

1985 John W. Hammond
1986 Rodney S. Rougelt
1987 David P. Crane (Decceased)
1988 Thomas E. Sitterley, Ph.D.
1989 Arthur L. Bannman
1990 Steve Selcho
1991 Donald M. Campbell
1992 Jerry Jerome
1993 J.D. (Jack) Drewett
1994 G.P. (Pres) McGee
1995 Judith Riess, Ph.D.
1996 Ed Ward
1997 Dennis Shockley
1998 Jim Cooksey
1999 Stan Aronberg (Decceased)
2000 Ron Johnson (Decceased)
2001 Debbie L. Berry
2002 Paul Bernhardt
2003 Bill Walsh
2004 Buck Leahy
2005 Steve Swaine
2006 Steve Detro
2007 Amy Henninger, Ph.D.
2008 Dan Currie
2009 DeLloyd Voorhees, Jr.
2010 Jim Wall, Ph.D.
2011 Mike Genetti, Ph.D.
### Education
**Chair:**
Jim Threlfall, C2 Technologies, Inc.

**Deputy Chair:***
Rhianon Dolletski-Lazar, ECS Federal

- Jeffrey Beaubien, Ph.D., Aptima, Inc.
- Troy Bennet, NAWCTSD | AIR 4.6.8
- Claudia Clark, Ed.D., U.S. Navy Surface Warfare Officers School
- Amanda Davies, Ph.D., Rabdan Academy
- Ed Degnan, Ph.D., Air Force Agency for Modeling and Simulation
- Jeremiah Folsom-Kovarik, Ph.D., Soar Technology
- William Gerber, Ph.D., Institute for Defense Analyses
- Matthew Hackett, Ph.D., ARL HRED STTC
- Kelly Hale, Ph.D., Design Interactive Inc.
- Toni Hawkins-Scribner, USAF Air University/Squadron Officer School
- Randy Jensen, Stottler Henke Associates Inc.
- Wendy Johnson, Ed.D., USAF Air Education & Training Command
- Brent Kedzierski, Shell Oil Company
- Anastacia (Stacy) MacAllister, Ph.D., Lockheed Martin
- Colleen Matthews, U.S. Army PEO STRI
- Jennifer McArdle, Salve Regina University
- Barron Mills, in solutions, LLC
- James Murnan, MARCORSYSCOM PM TRASY
- Kevin Oakes, SAIC
- Robert Parrish, Jr., U.S. Army PEO STRI
- Sae Schatz, Ph.D., Advanced Distributed Learning (ADL) Initiative
- Brent Smith, ADL Initiative
- Oscar Solano, MARCORSYSCOM PM TRASY
- Chelsea Stiles, General Dynamics Information Technology
- Christian Welch, NAWCTSD

**Chair:**
Jim Threlfall, C2 Technologies, Inc.

**Deputy Chair:**
Rhianon Dolletski-Lazar, ECS Federal

- Jeffrey Beaubien, Ph.D., Aptima, Inc.
- Troy Bennet, NAWCTSD | AIR 4.6.8
- Claudia Clark, Ed.D., U.S. Navy Surface Warfare Officers School
- Amanda Davies, Ph.D., Rabdan Academy
- Ed Degnan, Ph.D., Air Force Agency for Modeling and Simulation
- Jeremiah Folsom-Kovarik, Ph.D., Soar Technology
- William Gerber, Ph.D., Institute for Defense Analyses
- Matthew Hackett, Ph.D., ARL HRED STTC
- Kelly Hale, Ph.D., Design Interactive Inc.
- Toni Hawkins-Scribner, USAF Air University/Squadron Officer School
- Randy Jensen, Stottler Henke Associates Inc.
- Wendy Johnson, Ed.D., USAF Air Education & Training Command
- Brent Kedzierski, Shell Oil Company
- Anastacia (Stacy) MacAllister, Ph.D., Lockheed Martin
- Colleen Matthews, U.S. Army PEO STRI
- Jennifer McArdle, Salve Regina University
- Barron Mills, in solutions, LLC
- James Murnan, MARCORSYSCOM PM TRASY
- Kevin Oakes, SAIC
- Robert Parrish, Jr., U.S. Army PEO STRI
- Sae Schatz, Ph.D., Advanced Distributed Learning (ADL) Initiative
- Brent Smith, ADL Initiative
- Oscar Solano, MARCORSYSCOM PM TRASY
- Chelsea Stiles, General Dynamics Information Technology
- Christian Welch, NAWCTSD

### Emerging Concepts & Innovative Technologies
**Chair:**
Brian Overy
Aechelon Technology

**Deputy Chair:**
Gabe Diaz, Booz Allen Hamilton Inc.

- Maj. Jesse Attig, USMC, Battle Simulation Center, Twentynine Palms
- Lisa Jean Bair, SAIC
- Richard Blum, Training and Simulation Saab Defense and Security, USA LLC
- Chuck Breed, Zenetex LLC - Orlando Division
- John Burwell, Bohemia Interactive Simulations
- Sally Carter, Defense Language Institute, USAF
- Carla Cropper, Rockwell Collins
- Leslie Dubow, Veterans Health Administration EES
- Ba Duong, MARCORSYSCOM PM TRASY
- CDR Chris Foster, NAVAIR 205
- LtCol Byron Harder, Ph.D., USMC, TECOM MCST Branch Head
- John Hodak, NAWCTSD
- Diane Justice, USAF Helicopter Program Office, Air Force Materiel Command
- Tara Kilkullen, Aptima, Inc.
- Andrew Koch, NAWCAD
- Aerial Kreiner, Ph.D., Air Force Research Laboratory
- Frank Kranz, Raytheon Corporation
- Beth Pettitt, Ph.D., ARL STTC
- Sowmya Ramachandran, Ph.D., Stottler Henke Associates, Inc.
- Scott Schutzmester, Institute of Defense Analysis
- Dennis Shockley, Motion Analysis
- Harry Sotomayor, U.S. Army PEO STRI
- Shawn Stafford, Ph.D., Full Sail University
- Brian Stensrud, Ph.D., Soar Technology
- Paul Watson, U.S. Army PEO STRI
- Tim Woodard, NVIDIA

### Human Performance, Analysis and Engineering
**Chair:**
Robert “Buddha” Snyder, Whitney, Bradley and Brown, Inc.

**Deputy Chair:**
Ingrid Mellone, Huntington Ingalls

- Thomas Archibald, Ph.D., Intelligent Decision Systems Inc.
- J. Robert Bois, Ph.D., Lockheed Martin
- Bethany Brant, USAF Simulators Program Office, Air Force Materiel Command
- Gordon Gattie, Ph.D., NSWC Dahlgren
- Liz Gehr, Ph.D., The Boeing Company
- LTC Glenn Hodges, Ph.D., USA, Naval Postgraduate School
- Scott Hooper, Bohemia Interactive Simulations
- Allen Jaldin, MCSC SEAL Integration Division
- Lewis Johnson, Ph.D., Alelo Inc.
- Scott Johnston, Booz Allen Hamilton
- Sean Kearney, TechWise
- Mike Lokuta, CAE USA
- Adelle Lynch, Thales UK
- Perry McDowell, MOVES Institute
- Ellen Menaker, Ph.D., Intelligent Decision Systems Inc.
- Jennifer Murphy, Ph.D., Quantum Improvements Consulting LLC
- Connie Perry, U.S. Army PEO STRI
- Jim Pharr, Ph.D., NAWCTSD
- Paul Phillips, USAF Simulators Program Office, Air Force Materiel Command
- Robby Robson, Ph.D., Eduworks
- Robert Sottile, Ph.D., U.S. Army Research Laboratory
- Janet Spruill, Aptima, Inc.
- Alexandra Steiner, Ph.D., Trideum Corporation
- Phillip Thomas, Special Warfare Education Group
- Kendy Vierling, Ph.D., USMC TECOM
- Robert Wallace, 29th Training System Squadron, USAF Air Combat Command
- JoAnn Wesley, MARCORSYSCOM PM TRASY
Program Subcommittees

Policy, Standards, Management, and Acquisition

Chair: Jeffrey Raver, SAIC
Deputy Chair: Emilie Reitz, JS J6, Joint Fires Division

Program Subcommittees

Simulation

Chair: Favio Lopez, TRIDEUM
Deputy Chair: Paul Cummings, ECS

Training

Chair: Paul Lyon, Esterline Simulation Visual Systems
Deputy Chair: Benjamin Bell, Ph.D., Eduworks Corporation
International Programs

Director
K. Denise Threlfall, Ph.D., Agehya Global Business Solutions, Inc.

Deputy Coordinators
Paul Thurkettle, NATO Allied Command Transformation
Michael Weber, Arorae Corporation

Member
Angela Alban, SIMETRI
Thomas Archibald, Ph.D., Intelligent Decision Systems, Inc.
Amanda Davies, Ph.D., Rabdan Academy, UAE
Leslie Dubow, Department of Veterans Affairs
Jeff Frost, GaN Corporation
Tara Kilcullen, Aptima, Inc.
Craig Langhauser, Rockwell Collins
Josh Looper, USAF Training Aircraft Program Office, Air Force Materiel Command
Tiffany Peterson, Arorae Corporation
Robby Robson, Ph.D., Eduworks Corporation

Knowledge Management

Chair
Mark Soodeen, CAE

Deputy Chair
Anne Little, SAIC

Members
Jan Brown, CAE USA
Nina Deibler, Serco
Robert Johnson, TAPE
Michael O’Connor, Trideum Corporation
Kara Orvis, Aptima, Inc.
Ramona Shires
Eliot Winer, Iowa State University

Operations/Protocol

Chair
Len Kravitz, LRK Associates, Inc.

Deputy Chair Operations
Bruce Schwanda, B.A.S. Associates, LLC
Annie Patenaude, AMP Analytics

Deputy Chair Protocol
Steve Detro, Detro Consulting, LLC

Members
Mike Armstrong, Pulau Corporation
Lee Barnes
Richard Boyd, SZL.IT
Carol Denton
Catherine Emerick, Raytheon
Charlie Frye, Camber Corporation
Jim Godwin, The Tolliver Group, Inc.
Stephen Goldberg, ARL/UCF
Bob Heinlein, 3D Systems
Bill Hornsby, A. Harold & Associates, LLC
Zach Johnson, Principled Leadership Consultants
Ed Kulakowski, OT Training Solutions, Inc.
Pete Marion, TMST Consultants
Michael Motko, Coe Group & Falcon Global Solutions

Kristy Murray, Summit Strategic Consulting
Joe O’Connell, JL O’Connell & Associates, LLC
Mark Russell, Cole Engineering Services, Inc.
Mary Trier, Capital Communications & Consulting
Sam Worrell

Serious Games Showcase & Challenge IPT

Chair
Michael Woodman, Ph.D., SAIC

Deputy Chair
Kishan Shetty, Janus Research

Government Chair
CDR Gilbert Gay, USN, NAWCTSD

Director
Jennifer McNamara, BreakAway Games

Members
Jennie Ablanedo, University of Central Florida
Stu Armstrong, Cole Engineering Services, Inc.
Matt Becchio, Mass Virtual Inc.
Michelle Brauer, AOCE, Inc.
Gardner Congdon, SAIC
Karen Cooper, Ph.D., NAWCAD
Seth Crofton, Gaming Consultant
Leslie Dubow, Veterans Health Administration
John Fairchild, SAIC
Sidney Fooshee, Ph.D., CAPT MSC USN, Associate Director for Human Systems, at Office of the Assistant Secretary of Defense for Research & Engineering
Mark Friedman, Vertex Solutions Group, Ltd.
Dolly Rairigh Glass, Capital Communications & Consulting
Kent Gritton, JTI/C/NAWCTSD
Lisa Scott Holt, Ph.D., Intelligent Automation, Inc.
Sean Kearney, TechWise
Adelle Lynch, Thales UK
Colleen Matthews, PCTE PD/LE at U.S. Army
Doug Maxwell, Ph.D., APTIMA, Inc.
Steve McCabe, USAF Simulators Program Office, Air Force Materiel Command
Perry McDowell, Naval Postgraduate School
Elaine Raybourn, Ph.D., Sandia National Laboratories
Trey Reyher, Deloitte Consulting, LLC
Erik Sand, Florida Interactive Entertainment Academy, UCF
Kishan Shetty, Janus Research
Scott Shiffert, HP, Inc.
Steve Slosser, NAWCTSD
Juliana Slye, Government Business Results, LLC
Brent Smith, Joint ADL Co-Lab
Peter Smith, Ph.D., University of Central Florida
Vance Souders, Plas.md
Matt Spruill, Trideum Corporation
Stephen Stewart, Evviva Games
Shane Taber, Engineering & Computer Simulations, Inc.
K. Denise Threlfall, Ph.D., Agehya Global Business Solutions, Inc.
LCDR Robert Ward, USN, NAWCTSD
**Special Events Committee**

**Chair**  
Matt Spruill, Trideum Corporation

**Deputy Chair**  
Kara L. Orvis, Ph.D., Aptima, Inc.

**Members**

*I/ITSEC Fellows*
- Robert Richbourg, Ph.D., Institute for Defense Analyses
- Margaret Loper, Ph.D., Georgia Tech Research Institute
- Michael Genetti, Ph.D., Rockwell Collins Simulations Training Solutions

**Black Swan**
- Fred Fleury, ZedaSoft, Inc.
- Liz Gehr, Ph.D., The Boeing Company

**Operations Liaison**
- Len Kravitz, LRK Associates, Inc.

**STEM Committee**

**Chair**  
Linda Brent, Ed.D., The ASTA Group, LLC; NTSA, Strategic Planning

**Members**

*Serious Games*
- Jennifer McNamara, BreakAway Games

*Future Leaders Pavilion*
- Ann Friel

*Students at I/ITSEC*
- Bill “Roto” Reuter, R-Squared Solutions, LLC

*Scholarships*
- Dave Hutchings, Coe Naylor Inc.

*CEU/Professional Development Workshops*
- Debbie L. Berry, Lockheed Martin
- Todd Freece, University of Central Florida Continuing Education

*America’s Teachers at I/ITSEC*
- Margaret Loper, Ph.D., Georgia Tech Research Institute

*STEM Pavilion Project Based Learning Exhibits*
- Robert Seltzer, NAWCTSD

*Teacher Tours and Training*
- Robert Seltzer, NAWCTSD

*stemCONNECT*
- Jeff Bindell, Ph.D., University of Central Florida
- Vicki Morelli, Florida High Tech Corridor Council
- Carol Ann Dykes Logue, STEM Education Council of Central Florida
- Eileen Smith, University of Central Florida
- Hank Okraski, National Center for Simulation
- Kristy Murray, Summit Strategic Consulting

**Tutorial Board**

**Chair**  
David Milewski, CAE USA MSI

**Deputy Chair**  
Lisa Scott Holt, Ph.D., Intelligent Automation, Inc.

**Members**

- Charles Cohen, Ph.D., Cybernet Systems Corporation
- James Coolahan, Ph.D., Coolahan Associates, LLC
- Luis Miguel Encarnação, Ph.D., IBDI & University of Iowa
- Michael Freeman, Ed.D., AP Ventures, LLC
- Kevin Hulme, Ph.D., CMSP, University of Buffalo, Motion Simulation Laboratory
- Lee Lacy, Ph.D., The DiSTI Corporation
- Thomas Mastaglio, Ph.D., MYMIC LLC
- S.K. Numrich, Ph.D., CMSP, Institute for Defense Analyses
- Elaine M. Raybourn, Ph.D., Sandia National Laboratories
- Robert Richbourg, Ph.D., Institute for Defense Analyses
- Leah Rowe, Ph.D., Air Force Research Laboratory
- Roy Scrudder, The University of Texas at Austin, Applied Research Laboratories
- Don Sine, Ph.D., Dickieson Projects, Inc.
- Juliana Slye, Government Business Results, LLC
- Jim Wall, Ph.D., Texas A&M Engineering Experiment Station
Conference Information
About Registration

WHAT DO THE REGISTRATION FEES COVER?

In addition to access to Tutorials, Papers, Special Events and Professional Development Workshops, registration fees cover Continuing Education Units (CEUs), Lunches (T-W-Th), Coffee Breaks (T-W PM, W-Th AM), Continental Breakfasts (W-Th), and the Thursday Banquet. A meeting bag with conference materials is included. The fees also cover administrative expenses incurred.

I/ITSEC Registration Services for 2018

We strive to minimize the time spent in line so you can move on to the conference events or the exhibit floor. Our goal is to make your I/ITSEC experience a pleasant one even before you enter the Orange County Convention Center (OCCC). Avoid that line and move on to what you came to I/ITSEC to do!

Traditional Registration Stations. Located in S220 of the South Concourse Registration area, traditional walk-up registration will be available for Full Service Registration, on-site payments, changes/edits to name badges, multiple badge pick-ups, or just because you prefer dealing one-to-one with a real person.

Alternate Registration Stations within the Orange County Convention Center. Limited stations at the Main Registration Station will be open Friday and Saturday to handle early registration, especially exhibitors. Conference Attendees are encouraged to wait until Sunday afternoon or use the Self Badging/Self Registration kiosks.

Self-badging printing stations will be available for those who pre-registered and received a confirmation number. To complete your registration at this station, you must be paid in full with no outstanding balance or questions remaining about your registration.

VIPs, Speakers (including Paper Presenters), Media, and International registrants will have special registration stations. More details will be provided to each group, but be sure and watch for signage pointing to these areas.

Registration outside of the Orange County Convention Center. I/ITSEC Full Service Satellite Registrations will be located at the Main Lobby, between tower rooms and Hilton from Sunday noon through Tuesday. These stations will be staffed to assist you whether you need to start your registration from scratch or just need to pick up your nametag.

Hyatt Regency location: Convention Level, near the Grand Ballroom as you pass from the Hyatt to OCCC.

Hilton location: Lobby Level at the entrance of the skywalk leading from the hotel to the OCCC.

Parking

EXHIBITOR PARKING

$15 per Day – For regular vehicles with re-entry privileges each day. Exhibitor must show badge and receipt for repeat entries.

$25 per Day – For oversized vehicles with re-entry privileges each day. Exhibitor must show badge and receipt for repeat entries.

ATTENDEE PARKING

$15 per Day – For regular vehicles per entry.

$25 per Day – For oversized vehicles per entry.

AFTER 5PM

$10 per Day – For regular vehicles. Same stipulations as above.

$15 per Day – For oversized vehicles. Same stipulations as above.

ACCEPTED PAYMENT METHODS:
Cash, Traveler’s Checks, American Express, MasterCard & Visa

Dress Code

<table>
<thead>
<tr>
<th>BRANCH</th>
<th>CONFERENCE AND GENERAL SESSIONS</th>
<th>BANQUET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army</td>
<td>ACUs or Duty Uniform</td>
<td>Army Blue (Army Evening Mess Optional)</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>Service “C”</td>
<td>Evening Dress (Dress Blue “B” or Service “A” Optional)</td>
</tr>
<tr>
<td>Navy</td>
<td>Service Khaki, Navy Service Uniform</td>
<td>Dinner Dress White (Service Dress White Optional)</td>
</tr>
<tr>
<td>Air Force</td>
<td>Short or Long Service Blues</td>
<td>Service Dress Blue with Tie and Jacket (Mess Dress Optional)</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>Tropical Blue Long</td>
<td>Dinner Dress White (Service Dress White Optional)</td>
</tr>
<tr>
<td>Civilian</td>
<td>Business Attire</td>
<td>Black Tie (Optional)</td>
</tr>
</tbody>
</table>
The National Training and Simulation Association has blocked rooms with the Orlando hotels listed below. Make your lodging arrangements either on-line or by phone through onPeak, our official Housing Partner, through 21 November 2018 (19 November for Hilton). Beginning November 22, 2018 all changes and cancellations will need to be made directly with the hotel, please refer to the policies on your confirmation for details. On or after 05 November the hotels not onPeak will charge deposits and declined credit cards are subject to cancelation. On or after 05 November the hotels not onPeak will charge deposits and declined credit cards are subject to cancelation. For your convenience the hotel direct phone numbers will be posted on the I/ITSEC website. *Please note the group rate expires and current room rates may apply after 20 November. onPeak is our official housing partner and the only company authorized to represent I/ITSEC and NTSA. If you are contacted by other companies who present them-selves as representing the Conference or Association, please report to Debbie Langelier dlangelier@ndia.org.

**Securing your Reservation**

**On-Line:** Go to [http://www.iitsec.org/attend/planning-your-stay/](http://www.iitsec.org/attend/planning-your-stay/) accommodations select Official Housing Portal, Choose your category; whether you are a corporate, exhibitor, or government attendee, then view hotels. Enter your check-in and checkout dates and the available hotels will populate. Choose your preferred hotel and the program will lead you through the booking process. Should you need to extend your stay and do not see the night available, or need assistance please email us at IITSEC@onpeak.com.

**By Phone:** If you prefer to book via telephone, friendly and knowledgeable agents are ready to take your calls Monday through Friday from 8:00 AM - 6:00 PM CT at (855) 992-3353 or 212-532-1660.

**More Information about Lodging Arrangements**

- Government Room Rates are subject to change, based on the released per diem rate. The Government rate will update in the fall once the new rates are released.
- Government Rate Room Reservations: Require appropriate Government/Military ID, to be presented at the hotel desk upon check-in. *Rates are subject to change upon check-in without the proper credentials.
- Some hotels may charge an additional Resort Fee to include applicable taxes, please refer to your confirmation and the hotel’s website.
- The individual hotels are not authorized to accept reservations directly for this conference. Please email IITSEC@onpeak.com if your preferred hotel is unavailable for assistance.
- Guests must identify themselves as I/ITSEC Conference Attendees to receive incentives offered by the hotel for conference guests.
- The Conference will be held at the Orange County Convention Center, in the South Concourse. The headquarter hotel is the Hyatt Regency Orlando. *I/ITSEC Guests booked through onPeak Receive Optional Reduced Resort Fee: $15/day
- Shuttle buses/vans will be available throughout the conference.

---

*A limited amount of rooms offered at the Government per diem rate*
To get from your hotel to the South Concourse of the OCCC, you have several choices of transportation.

- I/ITSEC will provide Shuttle Bus service to all properties listed. (Schedules will be available at the hotels and at the entrance to the conference registration area.)
- Very reasonable Public Transportation is available on the I-Ride trolley bus along International Drive. Check http://www.iridetrolley.com or your hotel for schedules.
- Your own or a rented vehicle. See page 97 for detailed parking information.
- Most of the hotels are within walking distance (wear comfortable shoes).

The National Training and Simulation Association has arranged for the Hertz Company to be the official car rental agency for I/ITSEC with the special rates below. You can also make your reservations on-line through the I/ITSEC website (Lodging/Travel). Vehicles may be returned to any Hertz location in Florida at no additional charge.

<table>
<thead>
<tr>
<th>CAR</th>
<th>CLASS</th>
<th>DAILY</th>
<th>WEEKEND</th>
<th>WEEKLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Economy</td>
<td>$39</td>
<td>$19</td>
<td>$169</td>
</tr>
<tr>
<td>B</td>
<td>Compact</td>
<td>$42</td>
<td>$21</td>
<td>$174</td>
</tr>
<tr>
<td>C</td>
<td>Midsize</td>
<td>$45</td>
<td>$23</td>
<td>$184</td>
</tr>
<tr>
<td>D</td>
<td>Standard 2/4-Door</td>
<td>$49</td>
<td>$25</td>
<td>$194</td>
</tr>
<tr>
<td>F</td>
<td>Full Size 4-Door</td>
<td>$55</td>
<td>$33</td>
<td>$205</td>
</tr>
<tr>
<td>G</td>
<td>Premium</td>
<td>$69</td>
<td>$69</td>
<td>$345</td>
</tr>
<tr>
<td>I</td>
<td>Luxury</td>
<td>$89</td>
<td>$89</td>
<td>$399</td>
</tr>
<tr>
<td>Q4</td>
<td>Midsize SUV</td>
<td>$62</td>
<td>$62</td>
<td>$299</td>
</tr>
<tr>
<td>L</td>
<td>Standard SUV</td>
<td>$74</td>
<td>$74</td>
<td>$339</td>
</tr>
<tr>
<td>R</td>
<td>Minivan 2WD</td>
<td>$79</td>
<td>$79</td>
<td>$399</td>
</tr>
<tr>
<td>U</td>
<td>Convertible</td>
<td>$72</td>
<td>$72</td>
<td>$359</td>
</tr>
<tr>
<td>T</td>
<td>Large SUV</td>
<td>$115</td>
<td>$115</td>
<td>$549</td>
</tr>
<tr>
<td>T6</td>
<td>PRM XCAP SUV</td>
<td>$125</td>
<td>$125</td>
<td>$649</td>
</tr>
</tbody>
</table>
Advertising Opportunities: Official Publications of I/ITSEC

Now more than ever, with the increased challenges facing the defense and security marketplace, you need to keep your organization’s message in front of its target audience. Reach the leading decision-makers at the world’s largest simulation, training and modeling event of the year by advertising your products and services in the Official Publications of I/ITSEC.

Advertising in these publications is an excellent way to stand out in the crowd and invite the attendees to visit your exhibit, product demonstration and/or website. Then, after the event has ended, these publications are used by many as desk references, so your advertisement will reach the decision-makers long after the conference is over.

The I/ITSEC Proceedings

ONLINE REPOSITORY (PAPERS FROM 1966 – 2017)
The I/ITSEC knowledge Repository provides a valuable link to the I/ITSEC training, simulation and education community. Access the online papers repository at http://www.iitsecdocs.com.

Stay in Touch

Free Wireless hot spots. E-mail/Internet Kiosks.
Complimentary internet, WiFi and email access in the lobby (look for signage). Internet Kiosks available in main lobby near registration. If you need access outside of the complimentary stations, all of OCCC is now WiFi enabled for a modest user fee.

The National Training and Simulation Association’s Annual Simulation & Training Trends and Technology Review – I/ITSEC Exhibitor Directory

This publication will be available to all the attendees, exhibitors, and exhibit visitors at I/ITSEC. It will be placed in the attendees’ conference bags and available at registration, and other locations at the convention center. As an added bonus, your ad will also appear in the December Issue of National Defense Magazine — exposure beyond the walls of the convention center. National Defense is sent to over 81,000 BPA audited readers, including the members of NTSA. (Directory section will not appear in National Defense Magazine).

The I/ITSEC Show Daily

Advertise in this year’s Daily and be noticed by your customers and potential partners who are attending I/ITSEC. The I/ITSEC Show Daily informs the simulation & training community on breaking events & happenings on-site at I/ITSEC. It is printed overnight and distributed daily at the conference center, choice hotels, and uploaded to the I/ITSEC website. The daily has evolved into a vital part of I/ITSEC; a “must read” while attending the conference. Stop in to Media Room, W206 for more information.

Use both to give your company Unequalled Exposure

Special packages have been created so your organization can take advantage of both opportunities!

Web Banners

A limited number of banner ad spaces are available on the I/ITSEC website.

For more information on advertising in these publications, contact Kathleen Kenney at (703) 247-2576 • kkeney@ndia.org • or at I/ITSEC, Booth 2281.

The I/ITSEC is the premier annual event of its kind, attendance by the mainstream and specialist trade press is heavy, resulting in coverage that reaches your key marketing targets. Our media staff stands ready to assist you in achieving maximum exposure during your time at I/ITSEC. Corporate representatives are invited to bring their marketing materials to the Media Room for distribution as early as possible after the opening of registration. Additional exhibitor presentations will be made available inside the exhibit hall at the Innovation Showcase, Booth 2288.

Prior to the conference, contact John Williams at (703) 362-7005 or jwwilliams@ndia.org; check out more details on the I/ITSEC News page of http://www.iitsec.org. The I/ITSEC Media Room is S201E, phone (407) 685-4013.
National Training and Simulation Association

The NTSA, an affiliate of NDIA, represents and promotes the business interests of companies in the simulation, training, mission planning/rehearsal, and support services industry. NTSA’s 200 corporate and 500 individual members enjoy reduced fees on all NTSA events and services, as well as a monthly e-newsletter (Training Industry News) and National Defense magazine. Sustaining and Regular Corporate members receive early space selection and discounts on exhibit space at I/ITSEC. Individual memberships are also available.

For membership information, call Patrick Rowe at (703) 247-9471 or email at prowe@ndia.org. Visit the NTSA website http://www.trainingsystems.org.

National Defense Industrial Association

Based in Arlington, Virginia, the National Defense Industrial Association (NDIA) is a non-profit, educational association representing industry, government, and all the military services. About 1,600 companies and 85,000 individuals rely on NDIA for networking, knowledge, and business development opportunities. As the nation’s leading defense industry association promoting national security, NDIA advocates cutting-edge technology and superior weapons, equipment, training, and support for the warfighter and first responder. Through events, working divisions, local chapters, and four affiliate organizations, NDIA connects the government and defense industry to create a vigorous and ethical forum of information exchange leading to greater support for national security.

For NDIA membership information visit www.ndia.org or contact Tanya Coogan at tcoogan@ndia.org.
Security Training Before The Conference

Technology collection directives contain mandates requiring exhibitors and presenters to receive a Counterintelligence (CI) briefing from their CI support staff prior to I/ITSEC. Contractors with classified contracts may contact their Defense Security Service Special Agents. To avoid security breaches, I/ITSEC presenters and exhibitors should ensure that the required briefing has been received. A list of CI support agencies follows. Please contact your security officer/manager and ensure that an appropriate briefing for yourself and your colleagues is arranged. Providers of the briefings are:

<table>
<thead>
<tr>
<th>Army</th>
</tr>
</thead>
<tbody>
<tr>
<td>902 Military Intelligence</td>
</tr>
<tr>
<td>Navy, USMC, Coast Guard</td>
</tr>
<tr>
<td>Naval Criminal Investigative Service</td>
</tr>
<tr>
<td>Air Force</td>
</tr>
<tr>
<td>Air Force Office of Special Investigation</td>
</tr>
<tr>
<td>Contractors</td>
</tr>
<tr>
<td>Defense Security Service</td>
</tr>
</tbody>
</table>

Personal Security

The most important thing to protect, of course, is yourself. Pay attention to your surroundings. Report suspicious behavior or security breaches to a security person or NTSA staff. Familiarize yourself with emergency procedures and exits at your hotel and the Convention Center. Please note that security surveillance cameras are in place throughout the conference and exhibit areas.

Emergency Medical Services

EMT and/or paramedics will be on-site during I/ITSEC (including hall build-up and tear-down). During I/ITSEC 2018, they will be located on the same level as Registration, near the escalators between S220 and S230. See the layout on page 12 for the exact location. Dial 911 for life threatening emergencies. For non-emergencies within the center, dial 5-9809 or on your cell dial (407) 685-9809, or alert any security or I/ITSEC staff member with a radio.

Bags and Briefcases

Bags and Briefcases may be carried in by those wearing Conference Attendee or Exhibitor badges. Exhibit Visitors (those who are only visiting the exhibits) WILL NOT be allowed to carry in bags or briefcases. A check room will be available in the main registration area. A small purse or fanny pack is allowed, but is subject to search. Additional security restrictions may be posted on http://www.iitsec.org and on signage at the conference. Conference Management reserves the right to adjust security levels as deemed necessary during the conference.

Presentations

Recording devices will not be permitted in the presentation rooms, unless authorized by the conference management. Presenters and Exhibitors should review their company’s policy documents and those of the government agencies with whom you contract regarding open distribution, limited distribution, restricted distribution and sharing limitations.

Cameras

Exhibitors have the right to limit photographs and videos of their displays. Please respect this right by asking before photographing or videotaping. Participants found taking photos or videos without the consent of the subject presentors or exhibitors will be dealt with according to security procedures, to possibly include confiscation of materials and removal from the premises.

Inquiries (before the conference)

Registration (702) 798-8340 • Exhibit/Sponsorship (703) 247-9480 • All other inquiries (703) 247-9480
**Earle L. Denton Memorial Golf Tournament**
Organized by Central Florida Chapter NDIA • Sunday, 25 November OR Monday, 26 November

---

**Limited slots—Register early!**

### Deadlines

<table>
<thead>
<tr>
<th>Event</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golf On-Line Registration</td>
<td>19 November</td>
</tr>
<tr>
<td>Sponsorship</td>
<td>15 November</td>
</tr>
</tbody>
</table>

### Tournament Time

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday</td>
<td>1100 Registration</td>
</tr>
<tr>
<td>Monday</td>
<td>0630 Registration</td>
</tr>
</tbody>
</table>

### Point of Contact

Debbie Berry 407-748-3807
debbie.berry@lmco.com

### Format

Captain’s Choice/Scramble

### Pairings & Requests

Final assignments and pairings will be made by the tournament coordinator. Priority is based upon receipt of payment.

**NOTE:** To guarantee requested pairings, all golfers (two, three or four) MUST be entered during a single login session. Golfers registering separately should clearly specify pairing requests under comments. The tournament coordinator will attempt to honor all requests.

### Cancellations

Must be received via email to debbie.berry@lmco.com by close of business 16 November to receive 50% refund. No refunds thereafter.

### On-Line Registration

- Register and/or select sponsorship at www.iitsec.org/ATTENDEES/PLANNINGYOURSTAY/Pages/default.aspx
- Register one to four players per log in.

### Fees

$100 per player (green fees, range balls, cart, lunch)

Coordinate club rentals directly with the Rosen Shingle Creek Golf Club pro shop.

### Sponsorships

Details available at www.iitsec.org

- **Hole Sponsor** $500
- **Beverage Cart** $2,500
- **Hole-in-One** $2,500
- **Boxed Lunch** $3,000

### Sponsors

Send your logos via email to debbie.berry@lmco.com no later than 15 November. Do not bring your own sign

*Scholarships and additional qualified initiatives supported through tournament proceeds; for a full list of initiatives (STEM, Wounded Warriors, etc.) supported, please visit: http://www.ndia-cfl.org.*
ANNUAL I/ITSEC 5K RUN/WALK/ROLL 2018

WEDNESDAY, NOVEMBER 28, 2018
Orange County Convention Center
5:30AM Packet Pickup • 6:45AM Start Time

WEBSITE:
http://www.iitsec.org/attendees/planningyourstay
www.facebook.com/iitsec5k

All registered runners will receive custom race tech shirt, custom race metal, swag bag, race bib and official timing by Milestone Race Authority, pre- and post-race refreshments. Tax deductible registration.

EARLY REGISTRATION $25 until August 10
August 12 – November 2
(shirt size subject to availability)
November 3 – November 16
(shirt size subject to availability)
November 17 – Onsite
(shirt size subject to availability)

CHARITIES THE 5K WILL SUPPORT
Camaraderie Foundation
IITSEC STEM Initiative

TITLE SPONSOR
L3 Technologies

Email Sean Osmond for Race Information at iitsec5k@gmail.com or Shannon Burch for Sponsorship information at sburch@ndia.org
See You Next Year!
I/ITSEC | INTERSERVICE/INDUSTRY TRAINING, SIMULATION & EDUCATION CONFERENCE

WINNING THE WAR OF COGNITION
BY PUSHING READINESS AND LETHALITY BOUNDARIES

Save the Date!
December 2-6, 2019
www.iitsec.org

DECEMBER 2-6, 2019 • WWW.IITSEC.ORG • ORLANDO, FLORIDA
CALL FOR PAPERS AND TUTORIALS
I/ITSEC 2019

ABSTRACT DEADLINE: 1 MARCH 2019

WINNING THE WAR OF COGNITION
BY PUSHING READINESS AND LETHALITY BOUNDARIES

Subcommittees/Categories
• Education
• Emerging Concepts & Innovative Technologies
• Human Performance, Analysis and Engineering
• Policy, Standards, Management & Acquisition
• Simulation
• Training

Tutorials
Information on core M&S, training, and education topics suitable for management and technical personnel.

The submission process for the I/ITSEC Papers and Tutorials coincide. Submittal details will vary slightly, but the milestones will match.

Follow the Papers/Tutorials Completion Process for 2019 Abstract Submittal which will be posted in December.

http://www.iitsec.org/authors

I/ITSEC 2019 Program Chair
Jennifer Arnold
Booz Allen Hamilton
703-282-2640
Arnold_jennifer@bah.com

I/ITSEC 2019 Tutorial Board Chair
David Milewski
CAE USA MSI
Phone: (757) 224-5491
Email: dave.milewski@aoces.com

DECEMBER 2–6, 2019 ▶ WWW.IITSEC.ORG ▶ ORLANDO, FLORIDA
SUBMIT YOUR GAME BY SEPTEMBER 13, 2019
Three Development Categories
Business | Government | Student

7 AWARDS
PEOPLE’S CHOICE | STUDENTS’ CHOICE | XR | INNOVATION | BEST IN CATEGORY (3)

SERIOUS GAMES
SHOWCASE & CHALLENGE

December 2nd - 6th
SHOWCASE YOUR WORK
to education and training leaders, and top
gaming and software companies

For more information, Visit
WWW.SGSCHALLENGE.COM
Questions: SGSCHALLENGE@GMAIL.COM

WWW.IITSEC.ORG
Interservice/Industry Training Simulation & Education Conference