

# TABLE OF CONTENTS

## INTRODUCTION

<i>From the Conference Chair</i> .....	2
<i>From the Program Chair</i> .....	3
<i>Keynote Speakers</i> .....	4
<i>Conference Leadership</i> .....	5
<i>Interservice Executives</i> .....	6
<i>Principals and Advisor</i> .....	7
<i>Agenda</i> .....	8
<i>Hyatt Regency</i> .....	12
<i>Convention Center</i> .....	13
<i>Acronyms</i> .....	14

## SPECIAL EVENTS

<i>Signature Events</i> .....	15
<i>Focus Events</i> .....	27
<i>Community of Interest Events</i> .....	51
<i>Program Briefs</i> .....	55
<i>International Events</i> .....	57

## PROFESSIONAL DEVELOPMENT

<i>Continuing Education Units</i> .....	61
<i>Tutorial Grid</i> .....	62
<i>Tutorial Synopses 0830 – 1000</i> .....	63
<i>Tutorial Synopses 1245 – 1415</i> .....	65
<i>Tutorial Synopses 1430 – 1600</i> .....	69
<i>Tutorial Author Biographies</i> .....	71
<i>Paper Session Grid</i> .....	76
<i>Paper/Authors Presentation Schedule — Best Papers • Education</i> .....	80
<i>Paper/Authors Presentation Schedule — Emerging Concepts &amp; Innovative Technologies</i> .....	81
<i>Paper/Authors Presentation Schedule — Human Performance, Analysis and Engineering</i> .....	82
<i>Paper/Authors Presentation Schedule — Policy, Standards, Management and Acquisition</i> .....	83
<i>Paper/Authors Presentation Schedule — Simulation</i> .....	84
<i>Paper/Authors Presentation Schedule — Training</i> .....	85
<i>Professional Development Workshops</i> .....	87

## STEM

<i>EcosySTEM of Learning at I/ITSEC</i> .....	91
<i>America’s Students at I/ITSEC</i> .....	92
<i>Career Fair</i> .....	93
<i>Serious Games Showcase &amp; Challenge</i> .....	94
<i>I/ITSEC STEM Schedule</i> .....	95
<i>University Cohort Event at I/ITSEC</i> .....	96
<i>2021 Scholarship Winners</i> .....	97

## EXHIBIT HALL

<i>Hall Happenings</i> .....	99
<i>Innovation Showcase</i> .....	100
<i>Special Events — Exhibit Hall</i> .....	101

## CONFERENCE COMMITTEES

<i>Committees</i> .....	103
<i>Special Boards</i> .....	106
<i>Sponsoring Association</i> .....	108

## CONFERENCE INFORMATION

<i>Registration • Getting Around</i> .....	109
<i>Lodging</i> .....	110
<i>Publications &amp; Media</i> .....	111
<i>Safety &amp; Security</i> .....	112
<i>Attendance Policies</i> .....	113
<i>Golf Tournament</i> .....	114
<i>5K Walk, Run, and Roll</i> .....	115

## I/ITSEC 2022

<i>2022 Save the Date</i> .....	117
<i>2022 Call for Papers and Tutorials</i> .....	118
<i>2022 I/ITSEC Scholarship Information</i> .....	119
<i>2022 Serious Games Showcase &amp; Challenge</i> .....	120



# FROM the CONFERENCE CHAIR

## WELCOME ATTENDEES OF I/ITSEC 2021!



On behalf our sponsoring organization, the National Training and Simulation Association (NTSA); the I/ITSEC leadership committee and the countless volunteers, it is my distinct honor and great pleasure to welcome you to the 2021 Interservice/Industry Training, Simulation and Education Conference (I/ITSEC).

The theme selected for this year’s conference, “Innovating and Accelerating Training: Adapting to an Unexpected Future!” just may be the most applicable I/ITSEC theme to date based on recent world events. The theme provides a focus for our community to not only continue advancing the state of training with new methods and technologies, but to also build robust solutions to handle the unexpected events and challenges the future holds. What will those challenges look like? Although we can predict the shape the future will take, we never really know. If this past year has taught us anything, it is that enormous resources can be brought to bear on world-changing problems. We not only have to be ready for an unexpected future, we need to thrive in it!

I’ve watched our community turn on a dime and leverage the tools and capabilities we have collectively spent so many years creating to not only train, but to operationalize our day-to-day activities to support and enable the communities we serve. This has traditionally included Servicemen and Servicewomen with additional focus on education and medical technologies. We are now expanding to include first-responders and front-line workers, including our medical professionals and teachers. As we move forward, we are also continuing to broaden the application of these technologies and techniques to support non-DoD needs in the domains of medicine, cyber-readiness, energy, and transportation. From great challenges, come great opportunities, and this year’s conference is a great leap in that direction.

I/ITSEC 2021 features content-rich special events, paper presentations, tutorials, and exhibits to inform and guide the latest learning and simulation trends, practices, and technologies. If networking, conducting market research, and/or demonstrating your innovations is your desire, you will be thrilled to join the approximately 18,000 expected attendees representing multiple countries. Innovations and technologies presented at the conference address real-world current and future issues, and I challenge you to participate and be part of these events and discussions.

We all know that I/ITSEC is the largest global training, simulation, and education conference, but did you know that there is a monumental amount of coordinated effort required to make it seem seamless and elegant? It begins with the leadership of NTSA, but also requires the support of over 200+ volunteers from the military, government, industry, and academia to make this event happen each year. I am humbled by the dedication of our team of professionals from industry, government, and academia who consistently bring their passion and creativity to shape and frame the outstanding content for our 2021 Conference Program.

Whether you are an engineer, educator, trainer, system developer, or business developer, I/ITSEC 2021 will fulfill and exceed your professional requirements. I anticipate everyone will complete this week with valuable experiences and reinvigorated to continue our mission of advancing state-of-the-art modeling, simulation, and training capabilities. Get ready to Innovate and Accelerate to Adapt not only the future, but the future of yourself and your team.

Sincerely,

Jennifer Arnold

2021 I/ITSEC Conference Chair

### OPENING CEREMONIES

Tuesday, 30 November 2021 • 0815-1000

- Call to Order
- Presentation of Colors
- National Anthem
- Invocation
- Opening Remarks  
*Jennifer Arnold, 2021 Conference Chair*
- Keynote Speakers

### SENIOR LEADER PANEL

Tuesday, 30 November 2021 • 1030-1200

- Lieutenant General Kevin M. Iiams, USMC
- Lieutenant General Robert L. Marion, USA
- Major General Albert G. Miller, USAF
- Rear Admiral Peter Garvin, USN
- Brigadier General Ilmars A. Lejins, LVA



# FROM the PROGRAM CHAIR

*W*ELCOME ATTENDEES OF I/ITSEC 2021!



When I was selected to be the Program Chair for the 2021 Interservice/Industry Training, Simulation and Education Conference, I was honored, excited, and also quite stressed. I/ITSEC and the NTSA have come to mean a lot to me, and this is a big job. I knew there would be numerous challenges to overcome, and the ever-present COVID-19 pandemic wasn't even a thought yet. I wanted to be up to the challenges, but many weren't even known yet. As all the issues converged, these unique challenges were presented, and I saw something firsthand that truly inspired me. This tremendous community of volunteers, the NTSA staff, and our military services rose to each and every challenge. Working with such an amazing team has been a privilege. So, the first item on my agenda is to say "Thank You" to all of them.

The I/ITSEC leadership committee, countless volunteers and NTSA President RADM James Robb, USN (Ret.) have worked closely with the Conference Chair, Jennifer Arnold, and me since early in 2021. From developing the conference theme to organizing our meetings throughout the year to building a content-rich and engaging program, all these activities were done under the tremendous uncertainty of our "new normal". The conference theme: "Innovating and Accelerating Training: Adapting to an Unexpected Future!" was not developed due to the pandemic. It is a theme designed to challenge us to prepare for the many future challenges the M&S community will face. This theme runs through the program elements to provoke thought, engage, and even entertain conference attendees.

Every Program Chair wants to make their mark, whether through launching a new special event or providing a once-in-a-lifetime collection of decision makers at the conference. I see the long line of amazingly talented Program Chairs that have come before me and just want to be worthy of inclusion in that group. In a strange way, the opportunity to make my mark was handed to me: get the conference back to a sense of normalcy. This was quite a challenge to tackle, and one I could not do alone. The leadership team turned this challenge into a goal, to run an in-person conference and to take the steps needed throughout the year to get there. I would be remiss to not acknowledge the amazing work of the leadership committee, the Chairs and Deputies of all the conference boards, subcommittees, and integrated program teams, and the incredible people of NTSA. Countless hours have been spent pouring over every detail of the program, while working through the various waves of the pandemic, as well as the usual details of all the meetings and events leading up to the conference. The health and safety of our organizing volunteers and the M&S community is of paramount importance to me, Jennifer, and the conference leadership, and was constantly on our mind as the year progressed. Following all of this, I am thrilled we are holding the 2021 I/ITSEC in-person.

This year's conference boasts a terrific array of high-quality tutorials, papers, professional development workshops, special events, and exhibitors. We may have to take some additional safety precautions, but the leadership team has worked tirelessly to make this conference feel like any other year. Ordinarily, this would not be a feat, but we aren't living in ordinary times.

I look forward to seeing you all at the conference. I firmly believe that, in addition to the joy of being together again, attendees will find a wealth of value, knowledge, and networking opportunities available. Welcome back to I/ITSEC!

Sincerely,



Eliot Winer

2021 I/ITSEC Program Chair



# KEYNOTE SPEAKERS



**GENERAL DAVID H. BERGER, USMC**  
Commandant,  
U.S. Marine Corps

## SERVICE KEYNOTE 38TH COMMANDANT OF THE MARINE CORPS

**GENERAL DAVID H. BERGER** assumed the duties of Commandant of the Marine Corps on July 11, 2019.

A native of Woodbine, Maryland, General Berger graduated from Tulane University and was commissioned in 1981. He commanded at every level – including a Reconnaissance Company; 3d Battalion, 8th Marines in Haiti during Operation SECURE TOMORROW; Regimental Combat Team 8 in Fallujah, Iraq during Operation IRAQI FREEDOM.

As a General Officer, he commanded 1st Marine Division (Forward) in Afghanistan during Operation ENDURING FREEDOM; I Marine Expeditionary Force; U.S. Marine Corps Forces Pacific/Fleet Marine Forces Pacific; and Marine Corps Combat Development Command.

General Berger’s staff and joint assignments include serving as Assistant Division Commander of 2d Marine Division; policy planner in the Strategic Plans and Policy Directorate, J-5; Chief of Staff for Kosovo Force (KFOR) Headquarters in Pristina, Kosovo; and Director of Operations in Plans, Policies, and Operations, Headquarters, U.S. Marine Corps; Deputy Commandant for Combat Development and Integration.

General Berger’s formal military education includes the U.S. Army Infantry Officer Advanced Course, U.S. Marine Corps Command and Staff College, and U.S. Marine Corps School of Advanced Warfighting. He holds multiple advanced degrees including a Master of International Public Policy from Johns Hopkins University School of Advanced International Studies.



**ADMIRAL MICHAEL M. GILDAY, USN**  
Chief of Naval Operations

## SERVICE KEYNOTE

**ADMIRAL MICHAEL M. GILDAY** is the son of a Navy Sailor. A surface warfare officer, he is a native of Lowell, Massachusetts and a graduate of the U.S. Naval Academy. He holds master’s degrees from the Harvard Kennedy School and the National War College.

At sea, he deployed with *USS Chandler* (DDG 996), *USS Princeton* (CG 59), and *USS Gettysburg* (CG 64). He commanded destroyers *USS Higgins* (DDG 76) and *USS Benfold* (DDG 65) and subsequently, commanded Destroyer Squadron 7, serving as sea combat commander for the Ronald Reagan Carrier Strike Group.

As a flag officer, he served as commander Carrier Strike Group 8 embarked aboard *USS Dwight D. Eisenhower* (CVN 69), and as commander, U.S. Fleet Cyber Command and U.S. 10th Fleet.

His staff assignments include the Bureau of Naval Personnel; staff of the Chief of Naval Operations, and staff of the Vice Chief of Naval Operations. Joint assignments include executive assistant to the Chairman of the Joint Chiefs of Staff and naval aide to the President.

As a flag officer, he served in joint positions as director of operations for NATO’s Joint Force Command Lisbon; as chief of staff for Naval Striking and Support Forces NATO; director of operations, J3, for U.S. Cyber Command; and as director of operations, J3, for the Joint Staff. He recently served as director, Joint Staff.

He has served on teams that have been recognized with numerous awards and is the recipient of the Defense Distinguished Service Medal, Distinguished Service Medal, Defense Superior Service Medal (four awards), Legion of Merit (three awards), Bronze Star, Navy and Marine Corps Commendation Medal with Combat “V,” and the Combat Action Ribbon.

Gilday began serving as the 32nd Chief of Naval Operations August 22, 2019.



**BOB PETTE**  
Vice President and General  
Manager, Professional  
Visualization at NVIDIA

## INDUSTRY KEYNOTE

**BOB PETTE** is a native of Pittsburgh, Pennsylvania and holds degrees in Aerospace Engineering from the University of Georgia and Mathematics from the University of Tampa.

Bob has more than 30 years of years of experience in visualization, high-performance computing, and multi-touch technologies. This includes 20 years of executive management roles at Silicon Graphics and a CEO position at Perceptive Pixel where he successfully steered the company through its acquisition by Microsoft. Prior to his position at NVIDIA, Bob served as CEO of TouchShare where he transformed the multi-touch hardware company into a SaaS software company focusing on geospatial collaboration and visualization.

Bob took on the role of Vice President and General Manager of Professional Visualization Products Group at NVIDIA in August 2015. In this role, he is responsible multiple NVIDIA platforms and technologies such as NVIDIA RTX, Omniverse Enterprise, advanced rendering technologies, virtualization, and CloudXR.

# CONFERENCE LEADERSHIP

## CONFERENCE CHAIR



**JENNIFER ARNOLD**  
NVIDIA  
I/ITSEC 2021  
Conference Chair

**JENNIFER ARNOLD** has over 25 years of experience in the Simulation and Training industry, working at innovative performance and learning companies, and most recently accepted a leadership position with NVIDIA. Recognized for her award-winning contributions to Defense, Intelligence, Federal, and Commercial clients, her focus is on applying Immersive, Data Science and Machine Intelligence (DS&MI), Cyber, and Digital technologies to drive game-changing mission and business solutions. Her career experience includes building and managing performance improvement organizations with specialized expertise in mission-related systems integration, training, education, and strategic organizational transformation. She holds an M.A. in Industrial Organizational Psychology from St. Mary's University and a B.A. in Psychology from Texas Tech University. She currently serves on the Board of Directors for the Camaraderie Foundation, an organization committed to helping our Veterans and First responders battling post-traumatic stress and other "invisible" wounds of war. Jennifer has been an active member on I/ITSEC Subcommittees/Conference Committee for more than 15 years and is this year's Conference Chair.

## PROGRAM CHAIR



**ELIOT WINER, PH.D.**  
Iowa State University  
I/ITSEC 2021  
Program Chair

**ELIOT WINER** is currently director of the Virtual Reality Applications Center (VRAC), a professor in the Departments of Mechanical Engineering (main), Electrical and Computer Engineering (courtesy), the Department of Aerospace Engineering (courtesy), and a faculty member of the Human Computer Interaction Graduate Program at Iowa State University. He received a B.S. in Aerospace Engineering from The Ohio State University in 1992 and M.S. and Ph.D. degrees in Mechanical Engineering from the University at Buffalo in 1994 and 1999. He teaches courses on mechanical systems design, optimization, and professional ethics. Dr. Winer has over 20 years of experience working in modeling, simulation, and training (MS&T). His research interests include large-scale collaborative design methods; analysis machine learning), visualization, and interaction with large data sets (i.e., "Big Data"); multidisciplinary design analysis and optimization; computer-aided design and graphics; and extended reality (XR). Dr. Winer is a proven leader in this field having served in leadership positions in academia, major conferences, and multiple startup companies.

## CONFERENCE SPONSOR



**REAR ADMIRAL  
JAMES ROBB, USN  
(RET.)**  
President, National  
Training and  
Simulation Association

Following graduation from Rensselaer Polytechnic Institute, designation as a Naval Aviator and training in the F-14 Tomcat, Admiral Robb deployed nine times across the globe accumulating over 5,000 hours and 1,000 carrier landings. Following a tour flying Russian fighters in the Nevada desert, he commanded Fighter Squadron Fifty One, Carrier Air Wing Nine, the Navy Fighter Weapons School (TOPGUN) and Carrier Strike Group Seven. As a Flag Officer he managed all Naval Aviation Programs (N980) and was the Director of Navy Readiness (N43). Following 9/11, he joined USCENTCOM as the Director of Plans (J5), deploying to the Middle East in support of combat operations. Retiring in 2006, he built a successful small consulting business before joining the National Training and Simulation Association as President in June 2012.



**GENERAL HERBERT  
J. CARLISLE,  
USAF (RET.)**  
President and Chief  
Executive Officer,  
National Defense  
Industrial Association

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.



# INTERSERVICE EXECUTIVES

## Navy Service Executive



**CAPTAIN DAN COVELLI, USN**, is the Commanding Officer, Naval Air Warfare Center Training Systems Division (NAWCTSD) and Naval Support Activity (NSA), Orlando. 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 and undersea warfare and other specialized requirements. Captain Covelli leads a workforce of more than 1,200 scientists, evaluators, engineers, technicians, logisticians, contracting specialists and support personnel. Captain Covelli, a 1994 graduate of S.U.N.Y. Maritime College with a Bachelor of Engineering Degree in Electrical Engineering, received his commission through the Naval Reserve Officers Training Corps and was designated a Naval Aviator in 1997. Captain Covelli served as the Executive Officer for NAWCTSD prior to assuming command in July 2021. A Marine Aviation Weapons and Tactics Squadron 1 graduate, CAPT Covelli has flown 119 combat missions and logged over 2,800 flight hours in 19 different aircraft. His decorations include the Meritorious Service Medal, Air Medal – Strike/Flight, Navy Commendation Medal, and Navy Achievement Medal along with various other personal, unit, and service medals.

Technology. Prior to this, she served on the Office of the Secretary of Defense's (OSD) staff as the Military Assistant to the Principal Deputy to the Assistant Secretary of Defense for Research and Engineering. Prior to serving on the OSD staff, she was assigned to the NATO Training Mission – Afghanistan, Combined Security Transition Command – Afghanistan serving as the Chief, Security Cooperation Division; Security Assistance Office. She also served as the Senior Advisor to the Afghan National Army Ministry of Defense Acquisition, Technology, and Logistics Deputy Minister. Ms. Saunders has held command and staff assignments in Military Intelligence and Operations Research and Systems Analysis to include Strategic Intelligence Research Analyst, U.S. Army Concepts Analysis Agency, Bethesda, Maryland; Chief, Intelligence Systems Division, Battle Command Battle Lab – Huachuca; Battalion Executive Officer and Operations Officer, 304th Military Intelligence Battalion and 305nd Military Intelligence Battalion, Fort Huachuca, Arizona.

## Marine Corps Service Executive



**COLONEL LUIS "LOU" LARA, USMC**, is the Marine Corps Systems Command Program Manager, Training Systems (PM TRASYS). He is responsible for managing a workforce of over 170 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 Product 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



**COLONEL JOHN KURIAN, USAF**, is the Senior Materiel Leader, Simulators Division. In this role, he leads a team of more than 550+ members, executes a \$5.8B portfolio, and is responsible for developing and maintaining 70+ simulator and training systems for nine Major Commands (MAJCOMs) and multiple FMS partner nations. Col Kurian received his commission from the Illinois Institute of Technology in 1998, completed a MS degree in Electrical Engineering from Air Force Institute of Technology, and an M.S. degree in Strategic Intelligence from the National Defense Intelligence College in Washington, D.C. He's had program office tours at the Headquarters Air Force Weather Agency, National Reconnaissance Office, Air Force Research Laboratory, E-8C Modernization, JSTARS Recap and B-21; served in staff positions at Air Force Personnel Center and Headquarter Air Force Materiel Command; supported the National Security Agency mission; deployed for Operation Inherent Resolve.

## Army Service Executive



**KAREN D.H. SAUNDERS, SES**, is the Program Executive Officer for Simulation, Training and Instrumentation (PEO STRI). She previously served as the Chief of Staff for the Undersecretary of Defense for Acquisition and Sustainment (USD(A&S)). Prior to that, Ms. Saunders served as the Department of Defense's (DoD) Executive Director, Defense Science Board (DSB). In December 2014, Ms. Saunders culminated a 30 year honorable career in the U.S. Army as a Colonel serving as the Chief of Staff for the Assistant Secretary of the Army for Acquisition, Logistics and

Senior Advisor for Readiness and Training

## Senior Advisor for Readiness and Training



**GREGORY KNAPP** supports the U.S. Army Threat Systems Management Office (TSMO), the Office of the Under Secretary of Defense for Research and Engineering and the Office of the Under Secretary of Defense for Personnel and Readiness performing program management, technology and acquisition functions. He provides leadership and expertise in DoD 5G implementation, spectrum research and EW programs, coalition training programs, training infrastructure, and a wide variety of DoD training and technology issues including the air combat training system (ACTS). He provided critical support for the fielding of the Defense Readiness Reporting System and the conduct of the SecDef Nuclear Review. He served as the Vice Deputy Director for Future Joint Force Development, J7, Joint Staff, overseeing Operational Analysis, Chairman's Wargaming, Doctrine Development, Joint Concepts and Experimentation. He was also the Executive Director of the Joint Warfighting Center supporting USJFCOM and was instrumental in establishing the Joint National Training Capability and the Combatant Command Engagement and Training Transformation Program. Mr. Knapp has been a leader in training and technology for over 30 years, leading the development of numerous combat systems, combat system training systems and Navy test programs and is widely recognized as a leader in distributed simulation training technology implementation. He has managed over 50 programs affecting all Combatant Commands, Services, Interagency and Coalition partners.

Technology. Prior to this, she served on the Office of the Secretary of Defense's (OSD) staff as the Military Assistant to the Principal Deputy to the Assistant Secretary of Defense for Research and Engineering. Prior to serving on the OSD staff, she was assigned to the NATO Training Mission – Afghanistan, Combined Security Transition Command – Afghanistan serving as the Chief, Security Cooperation Division; Security Assistance Office. She also served as the Senior Advisor to the Afghan National Army Ministry of Defense Acquisition, Technology, and Logistics Deputy Minister. Ms. Saunders has held command and staff assignments in Military Intelligence and Operations Research and Systems Analysis to include Strategic Intelligence Research Analyst, U.S. Army Concepts Analysis Agency, Bethesda, Maryland; Chief, Intelligence Systems Division, Battle Command Battle Lab – Huachuca; Battalion Executive Officer and Operations Officer, 304th Military Intelligence Battalion and 305nd Military Intelligence Battalion, Fort Huachuca, Arizona.

# PRINCIPALS & ADVISOR

## SERVICE PRINCIPALS



**DIANA TEEL**  
**NAVY**  
Outreach Director / Chief Evangelist  
Naval Air Warfare Center Training Systems  
Division (NAWCTSD)



**ANNETTE PIKE**  
**MARINE CORPS**  
Assistant Program Manager for Operations  
& Programs, Marine Corps Systems  
Command (MARCORSYSCOM), Program  
Manager, Training Systems (PM TRASYS)



**TRACY TITCOMBE**  
**AIR FORCE**  
Foreign Military Sales  
Engineering Section Chief  
Air Force Materiel Command (AFMC)



**JESSE CAMPOS**  
**ARMY**  
PM Cyber, Test, and Training,  
Chief Engineer  
U.S. Army Program Executive Office,  
Simulation, Training and Instrumentation  
(PEO STRI)

## OSD PRINCIPAL



**WALTER (SHEP) BARGE, PH.D.**  
OSD(P&R)/Director JIOT

## EDUCATION AND TRAINING ADVISOR



**VADM AL HARMS, USN (RET.)**  
President  
Lake Highland Preparatory School



WEDNESDAY • 24 NOVEMBER 2021		
TIME	SESSION	LOCATION
0800	EXHIBITOR REGISTRATION OPEN	SOUTH CONCOURSE
1700	EXHIBITOR REGISTRATION CLOSE	

**THURSDAY • 25 NOVEMBER 2021 • CLOSED FOR THANKSGIVING**

FRIDAY • 26 NOVEMBER 2021 AND SATURDAY • 27 NOVEMBER 2021		
TIME	SESSION	LOCATION
0800	EXHIBITOR REGISTRATION OPEN	SOUTH CONCOURSE
1700	EXHIBITOR REGISTRATION CLOSE	

SUNDAY • 28 NOVEMBER 2021		
TIME	SESSION	LOCATION
0800	EXHIBITOR REGISTRATION OPEN	SOUTH CONCOURSE
1200	CONFERENCE REGISTRATION OPEN	SOUTH CONCOURSE
1200	SATELLITE REGISTRATION OPEN	HYATT REGENCY MAIN LOBBY
1800	ALL REGISTRATIONS CLOSE	

MONDAY • 29 NOVEMBER 2021		
TIME	SESSION	LOCATION
0700	CONFERENCE AND EXHIBIT REGISTRATION OPEN	SOUTH CONCOURSE
0730	SATELLITE REGISTRATION OPEN	HYATT REGENCY MAIN LOBBY

0830 – 1000 TUTORIALS (SYNOPSIS BEGIN ON PAGE 63)		
	TENA/JMETC: Live-Virtual-Constructive Integration for Test and Training	ROOM 320A
	Machine Learning Agents (ML Agents) for Training Intelligent Agents	ROOM 320B
	Zero Trust Security Architecture Applied to LVC Networks	ROOM 320C
	A Comprehensive Introduction to Medical Simulation	ROOM 320D
	Live Virtual Constructive (LVC) Simulation Interoperability 101	ROOM 320E
	Introduction to Department of Defense Modeling and Simulation	ROOM 320F
	An Introduction to RIEDP Concepts for Environmental Data Sharing	ROOM 329
	Overview and Application of xAPI, cmi5, and xAPI Profiles	ROOM 310C

<b>1030 – 1200</b>	<b>SIGNATURE EVENT:</b> Congressional Modeling and Simulation Caucus	ROOM 330ABCD
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1245 – 1415 TUTORIALS (SYNOPSIS BEGIN ON PAGE 66)		
	Introduction to HLA	ROOM 320A
	Understanding and Generating Synthetic Data for Computer Vision Applications	ROOM 320B
	5G Fundamentals – What is a Commercial 5G Network and How Does My Handset Attach to It?	ROOM 320C
	Advanced Air Mobility (AAM) and Flying Cars – Innovating Modeling & Simulation (M&S) Opportunities and Requirements to Revolutionize the Future of Transportation	ROOM 320D
	Distributed Event Integration and Execution	ROOM 320E
	Simulation Conceptual Modeling Theory and Use Cases	ROOM 320F
	Optimizing Knowledge Acquisition in Extended Reality (XR) Training Applications Through Effective Design	ROOM 329
	Fundamentals of Adaptive Instructional Systems (AISs)	ROOM 310C

<b>1400</b>	<b>EXHIBITS OPEN</b>	EXHIBIT HALL
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<b>1400 – 1500</b>	<b>FOCUS EVENT:</b> CMSP 3.0 – Reinvention!	ROOM 319
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<b>1430 – 1600 TUTORIALS</b> (SYNOPSIS BEGIN ON PAGE 69)		
	Distributed Interactive Simulation (DIS) 101 Tutorial: The Basics	ROOM 320A
	Operationalizing Artificial Intelligence: Moving AI from the Lab to the Real World	ROOM 320B
	Design for Additive Manufacturing (DFAM) and Cybersecurity: State-of-the-art and Future Vision	ROOM 320C
	Addressing the Challenges of Rigorous Simulation Validation	ROOM 320D
	Securing LVC Simulations on Your LAN and Across the WAN Using Data Distribution Service (DDS)	ROOM 320E
	An Introduction to Cognitive Systems for Modeling & Simulation	ROOM 320F
	Experimentation Campaign: Launching into MDO	ROOM 329
<b>1600 – 1730</b>	<b>SIGNATURE EVENT:</b> I/ITSEC Fellow 2021	ROOM 310C
<b>1800</b>	<b>EXHIBITS CLOSE</b>	
<b>1800</b>	<b>ALL REGISTRATION STATIONS CLOSE</b>	

## TUESDAY • 30 NOVEMBER 2021

TIME	SESSION	LOCATION	
0700	<b>CONFERENCE AND EXHIBIT REGISTRATION OPEN</b>	SOUTH CONCOURSE	
0730	<b>SATELLITE REGISTRATION OPEN</b>	HYATT REGENCY MAIN LOBBY	
<b>0815 – 1000</b>	<b>OPENING CEREMONIES</b> Call to Order Presentation of Colors National Anthem Invocation	HYATT WINDERMERE BALLROOM	
	<b>OPENING REMARKS</b> Jennifer Arnold, 2021 Conference Chair		
	<b>KEYNOTE ADDRESSES</b>		
	<table border="0"> <tr> <td><b>SERVICE</b> General David H. Berger Commandant, U.S. Marine Corps</td> <td><b>SERVICE</b> Admiral Michael M. Gilday Chief of Naval Operations U.S. Navy</td> <td><b>INDUSTRY</b> Bob Pette Vice President and General Manager, Professional Visualization, NVIDIA</td> </tr> </table>		<b>SERVICE</b> General David H. Berger Commandant, U.S. Marine Corps
<b>SERVICE</b> General David H. Berger Commandant, U.S. Marine Corps	<b>SERVICE</b> Admiral Michael M. Gilday Chief of Naval Operations U.S. Navy	<b>INDUSTRY</b> Bob Pette Vice President and General Manager, Professional Visualization, NVIDIA	
<b>1030 – 1200</b>	<b>SIGNATURE EVENT:</b> Senior Leader Panel	HYATT WINDERMERE BALLROOM	
<b>1200</b>	<b>EXHIBITS OPEN</b>	EXHIBIT HALL	
<b>1200 – 1330</b>	Lunch (Opening of Exhibits and Lunch will occur at 1200 or upon adjournment of the Senior Leader Panel)	SOUTH HALL B	
<b>1400 – 1530</b>	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 76.)	ROOMS 320ABCDEF	
<b>1400 – 1530</b>	<b>SIGNATURE EVENT:</b> U.S. Navy Flag Officer Panel	ROOM 330BCD	
<b>1400 – 1530</b>	<b>FOCUS EVENT:</b> DoD Modeling & Simulation and Digital Engineering Relationship	ROOM 320GH	
<b>1400 – 1530</b>	<b>PROGRAM BRIEF:</b> USAF Acquisition Update	ROOM 310AB	
<b>1600 – 1730</b>	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 76.)	ROOMS 320ABCDEF	
<b>1600 – 1730</b>	<b>SIGNATURE EVENT:</b> Modernizing Army Training Mission and Operations Panel	ROOM 330BCD	
<b>1600 – 1730</b>	<b>SIGNATURE EVENT:</b> Chief Data Officer Executive Roundtable	ROOM 330EF	
<b>1600 – 1730</b>	<b>FOCUS EVENT:</b> The Innovation Match Game	ROOM 310AB	
<b>1600 – 1730</b>	<b>FOCUS EVENT:</b> Navy Vision from the Training Systems' Program Managers	ROOM 320GH	
<b>1600 – 1730</b>	<b>PROGRAM BRIEF:</b> USMC Acquisition Update	ROOM 310C	
<b>1600</b>	<b>SATELLITE REGISTRATION STATIONS AT HYATT CLOSE</b>		
<b>1700 – 1830</b>	Exhibitor Networking Event	EXHIBIT HALL	
<b>1800</b>	<b>CONVENTION CENTER REGISTRATION CLOSES</b>		
<b>1800</b>	Senior Leaders Networking Hour and M&S Awards Dinner ( <i>invitation only</i> )	HYATT REGENCY	
<b>1830</b>	<b>EXHIBITS CLOSE</b>		





WEDNESDAY • 1 DECEMBER 2021		
TIME	SESSION	LOCATION
0630	5K Walk, Run or Roll Charity Race	OCCC
0700	<b>CONFERENCE AND EXHIBIT REGISTRATION OPEN</b>	SOUTH CONCOURSE
0830 – 1000	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 77.)	ROOMS 320ABCDEF
0830 – 1000	<b>SIGNATURE EVENT:</b> Future Application of Extended Reality and Artificial Intelligence to Enable Mission Command	ROOM 310AB
0830 – 1000	<b>FOCUS EVENT:</b> Cloud-based Simulation Developments in Europe	ROOM 310C
0830 – 1000	<b>FOCUS EVENT:</b> Navy Acquisition Menagerie	ROOM 330EF
0830 – 1000	<b>FOCUS EVENT:</b> The TaIX – XR Technical	DESTINATION LOUNGE
0830 – 1000	<b>PROGRAM BRIEF:</b> Army PEO STRI I	ROOM 330BCD
0930	<b>EXHIBITS OPEN</b>	EXHIBIT HALL
1030 – 1200	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 77.)	ROOMS 320ABCFGH
1030 – 1200	<b>SIGNATURE EVENT:</b> USMC GO Panel	ROOM 310AB
1030 – 1200	<b>FOCUS EVENT:</b> AF Gaming: Advancing M&S thru Gaming Industry	DESTINATION LOUNGE
1030 – 1200	<b>FOCUS EVENT:</b> Exploring Haptics and its Role in the Learning Process for Medical-Related Training & Simulation	ROOM 310C
1200 – 1330	Lunch	SOUTH HALL B
1200 – 1700	<b>COMMUNITY OF INTEREST EVENT:</b> NTSA Career Fair at I/ITSEC	ROOM 331C
1400 – 1530	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 78.)	ROOMS 320CDGH
1400 – 1530	<b>SIGNATURE EVENT:</b> A New American Way of Training	ROOM 310AB
1400 – 1530	<b>SIGNATURE EVENT:</b> Building a Comprehensive Modeling & Simulation Body of Knowledge	ROOM 330EF
1400 – 1530	<b>FOCUS EVENT:</b> USMC Large Scale Exercises	ROOM 310C
1400 – 1530	<b>FOCUS EVENT:</b> The Spider in the Urinal: A Panel on AI Ethics, Unpredictable Secondary Events, and AISs	ROOM 329
1530 – 1730	<b>SIGNATURE EVENT:</b> The TaIX – XR Acceleration	DESTINATION LOUNGE
1600 – 1730	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 78.)	ROOMS 320ABCD
1600 – 1730	<b>FOCUS EVENT:</b> Learning to Learn Together: How Will Human-AI Teams Achieve Mastery?	ROOM 330EF
1600 – 1730	<b>FOCUS EVENT:</b> Air Combat Cross Services Training Ranges Panel	ROOM 320GH
1600 – 1730	<b>FOCUS EVENT:</b> Black Swan – Ransomware Hits Wall Street!	ROOM 310AB
1600 – 1730	<b>COMMUNITY OF INTEREST EVENT:</b> IEEE Adaptive Instructional Systems (AIS) Consortium	ROOM 329
1600 – 1730	<b>PROGRAM BRIEF:</b> Army PEO STRI II	ROOM 330BCD
1800	<b>ALL REGISTRATIONS CLOSE</b>	
1800	<b>EXHIBITS CLOSE</b>	

THURSDAY • 2 DECEMBER 2021		
TIME	SESSION	LOCATION
0700	<b>CONFERENCE AND EXHIBIT REGISTRATION OPEN</b>	SOUTH CONCOURSE
0830 – 1000	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 79.)	ROOMS 320ABCDEF
0830 – 1000	<b>FOCUS EVENT:</b> Future of Army Training Enterprise Architecture	ROOM 320GH
0830 – 1000	<b>FOCUS EVENT:</b> Tech Vision – Innovation Megatrends	DESTINATION LOUNGE
0830 – 1000	<b>FOCUS EVENT:</b> Cyber ‘King of the Hill’	ROOM 329
0830 – 1000	<b>COMMUNITY OF INTEREST EVENT:</b> NMSG and SISO Partnership in Simulation Interoperability Standards Development	ROOM 310C
0830 – 1000	<b>PROGRAM BRIEF:</b> U.S. Navy	ROOM 310AB
0930	<b>EXHIBITS OPEN</b>	EXHIBIT HALL
1030 – 1200	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 79.)	ROOMS 320ABCD

# AGENDA

1030 – 1200	<b>SIGNATURE EVENT:</b> Talent Data	ROOM 310AB
1030 – 1200	<b>FOCUS EVENT:</b> Research Foundations and Findings Supporting Augmented and Virtual Reality (AR/VR) Implementation in the Wild	ROOM 329
1030 – 1200	<b>FOCUS EVENT:</b> Accelerating Change or Lose: How Airmen are Leading the Innovative Change Required to Secure our Nation Tomorrow	ROOM 330EF
1030 – 1200	<b>FOCUS EVENT:</b> Iron Dev	BOOTH 781
1030 – 1200	<b>FOCUS EVENT:</b> Joint Cyber Warfighting Architecture Cyber Panel	ROOM 320GH
1200 – 1330	Lunch	SOUTH HALL B
1300	Serious Games Showcase and Challenge Awards Ceremony	BOOTH 2588
1330 – 1500	<b>PAPER SESSIONS</b> (Title/Author list begins on page 80. Session schedules for this timeframe are on page 79.)	ROOMS 320AB
1330 – 1500	<b>FOCUS EVENT:</b> Digital Twin/Digital Engineering: Multinational Perspectives on Digital Engineering and the M&S Enterprise	ROOM 310C
1330 – 1500	<b>FOCUS EVENT:</b> From the Trenches: An OTA Retrospective	ROOM 310AB
1330 – 1500	<b>COMMUNITY OF INTEREST EVENT:</b> Sea Services Live Virtual Constructive Training Environment	ROOM 330EF
1500	<b>EXHIBIT HALL AND REGISTRATION CLOSE</b>	
1800	<b>Hosted Reception</b> Sponsored by Lockheed Martin	HYATT WINDERMERE BALLROOM
1900	<p><b>Conference Awards Banquet</b></p> <p><i>Reception &amp; Awards</i></p> <p>Best Paper Award Presentation            Best Tutorial Award Presentation            I/ITSEC 2021 Scholarship Presentations            • RADM Fred Lewis Postgraduate Scholarships            • Leonard P. Gollobin Postgraduate Scholarships            • Barbara McDaniel Undergraduate Scholarships            Passing of the Flag for I/ITSEC 2022            Post Dinner Entertainment and Networking</p>	HYATT WINDERMERE BALLROOM

## FRIDAY • 3 DECEMBER 2021

TIME	PROFESSIONAL DEVELOPMENT WORKSHOPS (SYNOPSIS ON PAGES 87 – 90)	LOCATION
0800 – 1200	<b>PDW:</b> Live-Virtual-Constructive (LVC) Interoperability Techniques	ROOM 331A
0800 – 1200	<b>PDW:</b> Harnessing the Power of Data Analytics to Optimize Training	ROOM 331B
0800 – 1200	<b>PDW:</b> A Process for Integration and Execution of Distributed LVC Events	ROOM 331C
0800 – 1200	<b>PDW:</b> Fundamentals of Adaptive Instructional Systems (AISs) Workshop	ROOM 331D
0800 – 1200	<b>PDW:</b> Deep Evolved AI for the Neural Net Enthusiast	ROOM 330E
0800 – 1200	<b>PDW:</b> Evaluating the Impact and ROI of LVC Training and Education Programs and Innovations to Improve Program Effectiveness and Efficiencies	ROOM 330F
0800 – 1200	<b>PDW:</b> Using the ML-Agents Toolkit and the Unity 3D Game Engine to Train Intelligent Agents to Capture the Flag	ROOM 330G
0800 – 1200	<b>PDW:</b> DDS 101 Professional Development Workshop	ROOM 330H
0800 – 1200	<b>PDW:</b> Certified Modeling and Simulation Professional 3.0 – Tutorial and Workshop Proposal	ROOM 330A
0800 – 1200	<b>PDW:</b> Design, Build, Evaluate, and Implement Conversation-based Intelligent Systems	ROOM 330B

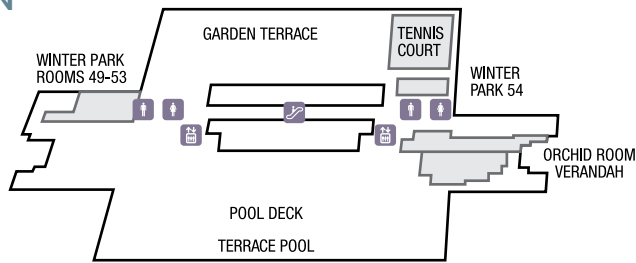
## DRESS CODE

BRANCH	CONFERENCE AND GENERAL SESSIONS	BANQUET
Army	ACUs or Duty Uniform	Army Blue ( <i>Army Evening Mess Optional</i> )
Marine Corps	Service “C”	Evening Dress ( <i>Dress Blue “B” or Service “A” Optional</i> )
Navy	Service Khaki, Navy Service Uniform	Dinner Dress White ( <i>Service Dress White Optional</i> )
Air Force	Blues ( <i>Short or Long Sleeve</i> )	Mess Dress or Semi-Formal
Coast Guard	Tropical Blue Long	Dinner Dress White ( <i>Service Dress White Optional</i> )
Civilian	Business Attire	Black Tie ( <i>Optional</i> ) or International Traditional Costume



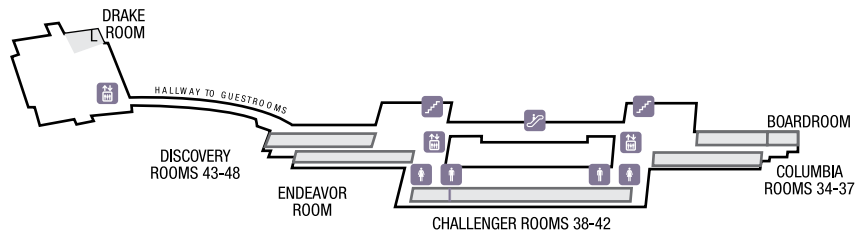
# HYATT REGENCY

## RECREATION LEVEL

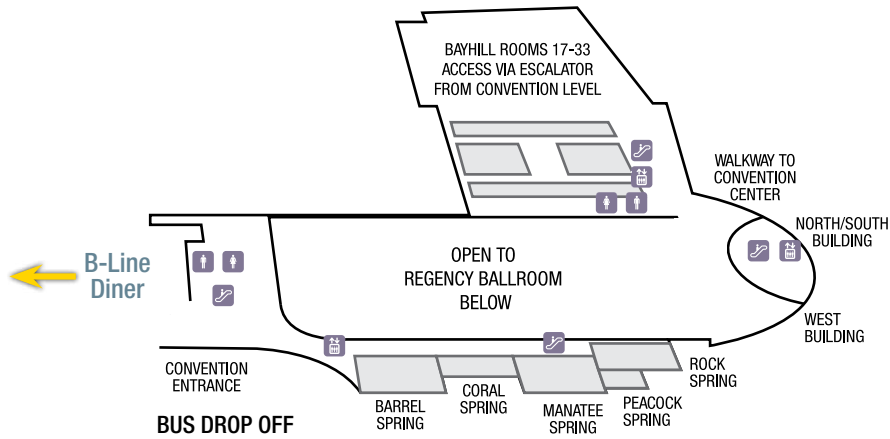


KEY	
	Restrooms
	Escalator
	Stairway
	Elevator
	Information
	ATM

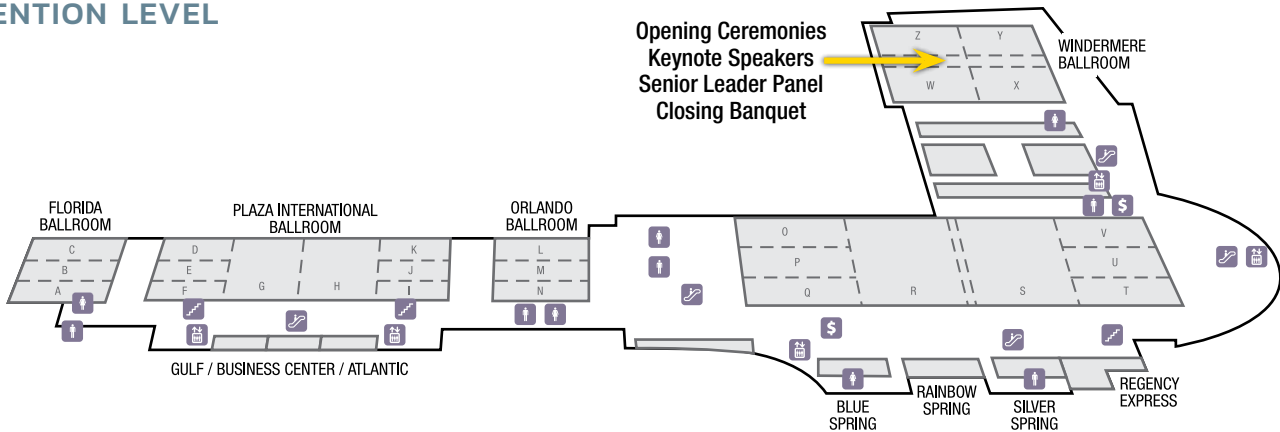
## MEZZANINE LEVEL



## ENTRY LEVEL



## CONVENTION LEVEL



# CONVENTION CENTER

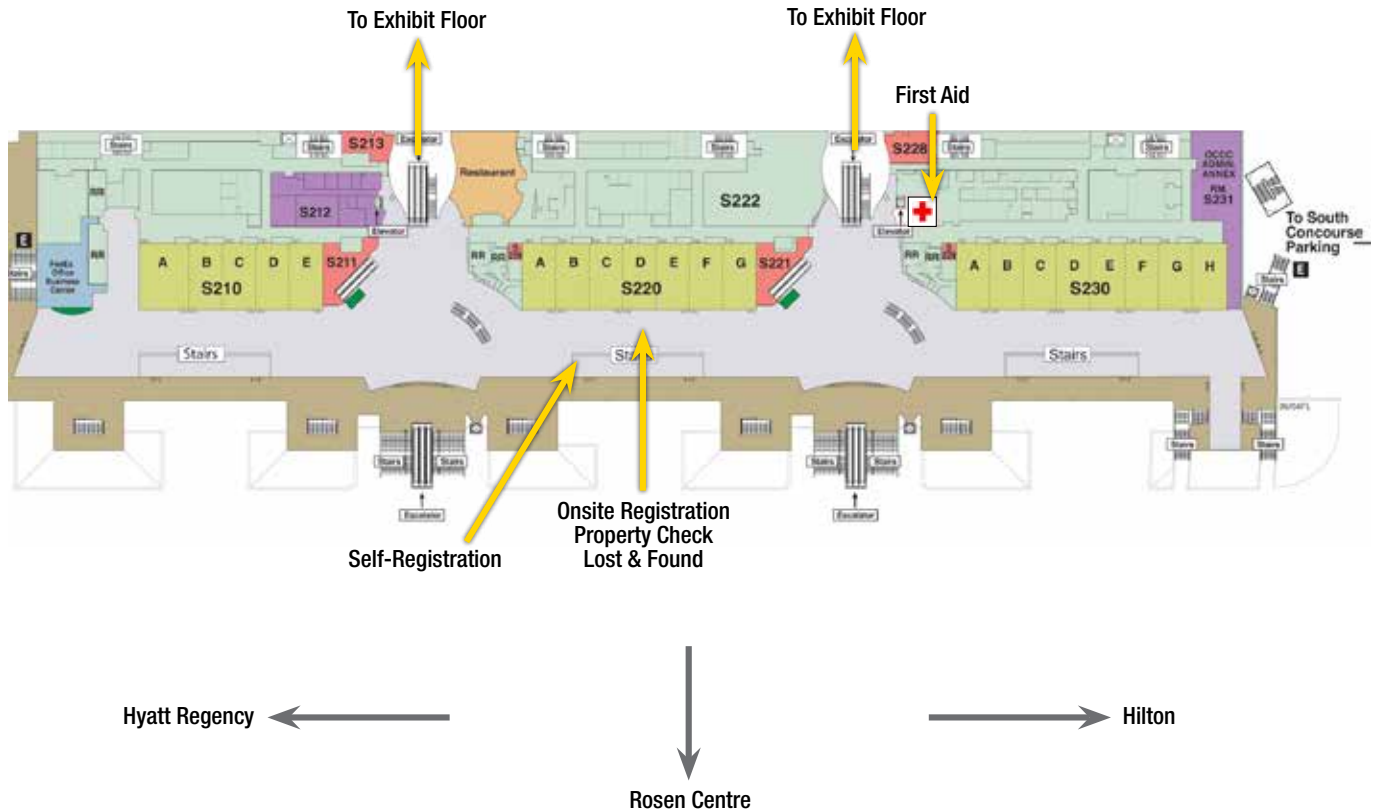
## SOUTH CONCOURSE

ORANGE COUNTY CONVENTION CENTER  
ORLANDO, FLORIDA

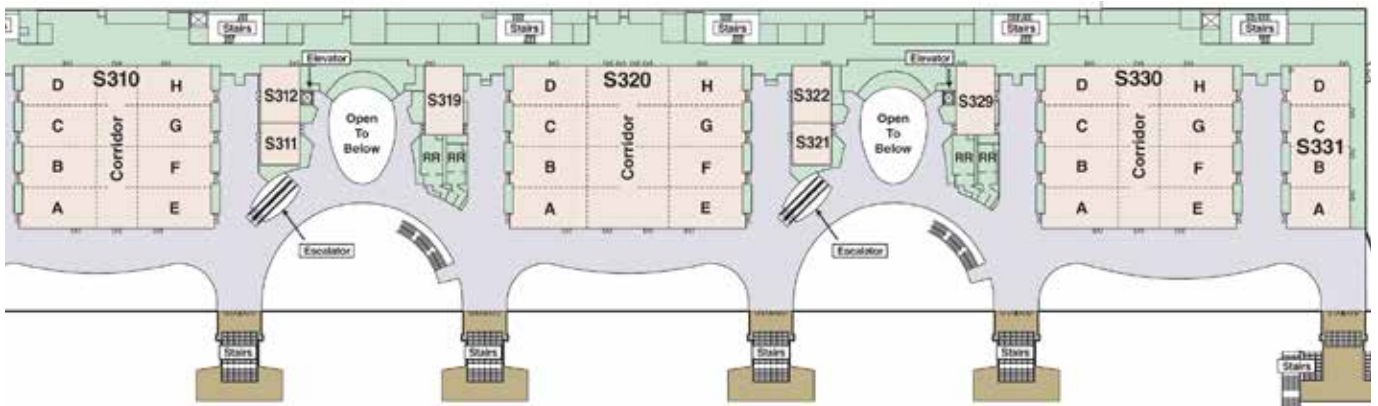
Although the buildings are large, a five-minute walk will take you...

- from the South Concourse to the North Concourse
- from the South Concourse to the Hilton
- from the South Concourse to the Hyatt Regency
- from the South Concourse to the Rosen Center
- from the South Concourse to the Hyatt Regency
- from the South Concourse to the Rosen Center

### LEVEL 2 (ENTRY / REGISTRATION / EXHIBIT HALL)



### LEVEL 3 (TUTORIALS / PRESENTATIONS / EVENTS / PRACTICE ROOMS / PROFESSIONAL DEVELOPMENT WORKSHOPS)





## COMMANDS

### USN

Naval Education and Training Command	(NETC)
Naval Air Warfare Center Training System Division	(NAWCTSD)
Naval Air Systems Command	(NAVAIR)
Naval Sea Systems Command	(NAVSEA)

### USMC

Marine Corps Systems Command	(MARCORSYSCOM) / (MCSC)
Program Manager, Training Systems	(PM TRASYS)
Marine Corps Air Ground Combat Center	(MCAGCC)
Marine Air Ground Task Force Training Command	(MAGTFTC)

### USA

U.S. Army Threat Systems Management Office	(TSMO)
U.S. Army Program Executive Office, Simulation, Training and Instrumentation	(PEO STRI)
Assistant Secretary of the Army (Acquisition, Logistics and Technology)	ASA (ALT)
Army Contracting Command-Orlando	(ACC-ORL)
Program Executive Office - Aviation	(PEO AVN)
Program Executive Office Ground Combat Systems	(PEO GCS)
Program Executive Office - Intelligence, Electronic Warfare and Sensors	(PEO IEWS)
Program Executive Office for Command, Control and Communications-Tactical	(PEO C3T)
Undersecretary of Defense for Acquisition and Sustainment	(USD(A&S))
Training and Doctrine Command	(TRADOC)

### USAF

Air Force Life Cycle Management Center	(AFLCMC)
Air Force Major Commands	(MAJCOMs)
Air Force Research Laboratory	(AFRL)
Air Force Materiel Command	(AFMC)
Air Force Agency for Modeling & Simulation	(AFAMS)

## OTHERS

Institute of Electrical and Electronics Engineers	(IEEE)
North Atlantic Treaty Organization	(NATO)
NATO Modelling and Simulation Group	(NMSG)
European Training and Simulation Association	(ETSA)
Secretary of Defense	(OSD)
Department of Defense	(DoD)
United States Joint Forces Command	(USJFCOM)
Cybersecurity and Infrastructure Security Agency	(CISA)
Defence Science and Technology Laboratory	(DSTL)
Institute for Defense Analyses	(IDA)
Adaptive Instructional Systems Consortium	(AIS) Consortium
Industry & Standards Organization	(ISTO)
Department of Homeland Security	(DHS)
U.S. Special Operations Command	(USSOCOM)