

# **PRECISION STRIKE TECHNOLOGY SYMPOSIUM (PSTS-21)**

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**Technology for Integrated 21st Century Deterrence**

October 19 – 21, 2021 | [NDIA.org/PSTS21](https://ndia.org/PSTS21)

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## WHO WE ARE

The National Defense Industrial Association is the trusted leader in defense and national security associations. As a 501(c)(3) corporate and individual membership association, NDIA engages thoughtful and innovative leaders to exchange ideas, information, and capabilities that lead to the development of the best policies, practices, products, and technologies to ensure the safety and security of our nation. NDIA's membership embodies the full spectrum of corporate, government, academic, and individual stakeholders who form a vigorous, responsive, and collaborative community in support of defense and national security. For more than 100 years, NDIA and its predecessor organizations have been at the heart of the mission by dedicating their time, expertise, and energy to ensuring our warfighters have the best training, equipment, and support. For more information, visit **NDIA.org**

## SCHEDULE AT A GLANCE

ALL SESSIONS WILL BE HELD IN THE AUDITORIUM

### Tuesday, October 19

#### Nuclear Modernization Programs

Kossiakoff Center Auditorium  
8:00 — 8:45 am

#### Navy OASUW

Kossiakoff Center Auditorium  
2:45 — 3:30 pm

#### Networking Reception

Kossiakoff Center  
5:05 — 6:30 pm

### Wednesday, October 20

#### Integrated and Networked Fires

Kossiakoff Center Auditorium  
7:55 — 8:40 am

#### 13th Richard H. Johnson Technical Achievement Award

Kossiakoff Center Auditorium  
11:55 am — 12:55 pm

#### Networking Reception

Kossiakoff Center  
4:30 — 6:00 pm

### Thursday, October 21

#### Missile Defense Agency Overview

Kossiakoff Center Auditorium  
7:55 — 8:40 am

#### PEO (Weapons) Perspective

Kossiakoff Center Auditorium  
9:40 — 10:25 am

#### Grab-and-Go Boxed Lunch

Kossiakoff Center  
12:30 pm



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# WELCOME TO PRECISION STRIKE TECHNOLOGY SYMPOSIUM (PSTS-21)

It is a great honor to return to the Kosiakoff Center in person to bring you PSTS-21. This represents the first “live” classified event since Integrated Precision Warfare came into being from the proud legacy of the Precision Strike Association and NDIA's Strike Land Attack and Air Defense Division in January of 2020. Our classified Technology Symposium has long been the premier event for the precision strike community. This year is no different. We are excited to bring you a dense three days of engagement on the weighty issues facing the precision warfare community and the high-end warfighters we serve. We hope you engage, interact with and contribute to solving the challenges the presenters highlight. These are the critical areas in which our nation and warfighters needs capabilities to ensure strategic overmatch.

Beyond PSTS-21, IPW is committed to marching steadily back to full service support for our community, over the next six months:

- Look-ahead to Captains of Industry roundtable events where senior leaders share the vexing problems keeping

them up at night.

- In early 2022, we are returning to Command Visits around the nation to Service concentration areas like San Diego, CA in February and Huntsville, AL in March. These are opportunities to hear directly from the Commanders where their challenges are, why these challenges are critical and where they need industry and academia's help.
- Finally, IPW is pleased to announce resumption of our Annual Review, live at the classified level in VA on April 6-7 2022 (tentative). Mark your calendars to participate in this strategy and policy discussion with senior leadership.

Welcome back everyone. Thank you for supporting IPW and our mission!

Best,

**“Moose”**

**Ken Masson**

Chair, NDIA IPW Division & Senior Director Programs Washington, Northrop Grumman Defense Systems

## GET INVOLVED

Learn more about NDIA's Divisions and how to join one at [NDIA.org/Divisions](https://www.ndia.org/Divisions)



# INTEGRATED PRECISION WARFARE

## WHO WE ARE

Integrated Precision Warfare (IPW) provides a forum for disparate kill chain experts to convene and collaborate to advance the art and science of precision engagement, thereby sustaining the success of American warfighters and ensuring the safety of our nation. As such, IPW organizes two classified annual events formerly held by the Precision Strike Association: the Integrated Precision Warfare and the Precision Strike Technology Symposium (PSTS). These classified events serve as ethical, collegial vehicles for top federal and military leadership to engage with technical subject matter experts and industry leadership in a candid dialogue that seeks to solve issues along the entire kill chain. To ensure that the topics considered at these events are relevant and timely, IPW members annually visit operational U.S. military commands to gain firsthand knowledge of current operational issues facing the warfighter.

## LEADERSHIP AND COMMITTEES

**Ken “Moose” Masson**  
Division Chair

**Mark Converse**  
Division Vice Chair

**Kerry Neace**  
**Kurt Chankaya**  
Program Chairs

# EVENT INFORMATION

## LOCATION

The Johns Hopkins University  
Applied Physics Laboratory Kossiakoff Conference Center  
11100 Johns Hopkins Road  
Laurel, MD 20723

**MANDATORY  
MASK WEARING  
FOR ALL ATTENDEES**

## ATTIRE

Civilian: Business  
Military: Uniform of the Day

## SURVEY AND PARTICIPANT LIST

You will receive via email a survey and list of participants (name and organization) after the symposium. Please complete the survey to make our event even more successful in the future.

## EVENT CONTACT

**Renata Casiel**  
Meeting Planner  
(703) 247-2561  
rcasiel@NDIA.org

**Kimberly Williams**  
Director, Meetings  
(703) 247-2578  
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Program Manager, Divisions  
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# AGENDA

**TUESDAY, OCTOBER 19**

7:45 – 7:50 am

## **WELCOME AND OPENING REMARKS**

**Ken “Moose” Masson**

Chair, NDIA IPW Division & Senior Director Programs Washington, Northrop Grumman Defense Systems

7:50 – 7:55 am

## **JHU/APL WELCOME**

**Kirk Shawhan**

Mission Area Executive, The Johns Hopkins University Applied Physics Laboratory

7:55 – 8:00 am

## **INTRODUCTION OF BRIEFERS**

**Dr. Kerry Neace**

Program Area Manager, Johns Hopkins University Applied Physics Laboratory

8:00 – 8:45 am

## **KEYNOTE: NUCLEAR MODERNIZATION PROGRAMS**

**Mike Thompson**

Assistant Deputy Administrator, National Nuclear Security Administration, Major Modernization Programs

8:45 – 9:30 am

## **SLCM-N AOA BRIEF**

**Brian “Irish” Kelly**

Study Lead, Mission Engineering Division, NAVAIR

9:30 – 10:15 am

## **CONVENTIONAL NUCLEAR INTEGRATION**

**Dr. Billy Mullins**

SES, USAF/A10

10:15 – 10:30 am

## **NETWORKING BREAK**

10:30 – 11:15 am

## **NAVY CONVENTIONAL PROMPT STRIKE UPDATE**

**CAPT Gregory Zettler, USN**

Strategic Systems Programs, U.S. Navy

11:15 – 12:00 pm

## **RUSSIA INTEL UPDATE: PRECISION STRIKE OVERVIEW**

Undisclosed Speaker: Confidential

12:00 – 12:55 pm

## **NETWORKING LUNCHEON: DISRUPTIVE WISDOM ON ‘DISRUPTIVE’ TECHNOLOGIES: A STRATEGIST’S VIEW**

**Sam Tangredi**

Leidos Chair of Future Warfare Studies Professor of National, Naval and MAritime Strategy, Center for Naval Warfare Studies, U.S. Naval War College



12:55 – 1:00 pm

## **AFTERNOON KICKOFF**

**Dr. Kerry Neace**

Program Area Manager, The Johns Hopkins University Applied Physics Laboratory

1:00 – 1:45 pm

## **GOLDEN HORDE**

**Dr. Emily Doucette**

Technical Advisor, Air Force Research Laboratory

1:45 – 2:30 pm

## **OSD/SCO – POINT BREAK**

**Kevin Kee**

OSD Strategic Capabilities Office

2:30 – 2:45 pm

## **NETWORKING BREAK**

KOSSIAKOFF CENTER MEZZANINE

2:45 – 3:30 pm

## **NAVY OASUW**

**CAPT Richard “Tofu” Gensley, USN**

Strategic Strike Weapons Program Office, NAVAIR (PMA-201)



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- 3:30 – 4:15 pm

**AIR COMBAT EVOLUTION (ACE)**  
**Lt Col Ryan “Hal” Hefron**  
 ACE Program Manager, Defense Advanced Research Projects Agency
- 4:15 – 5:00 pm

**TACE**  
**Chris “Disco” DeMay**  
 Program Manager, The Johns Hopkins University Applied Physics Laboratory
- 5:00 – 5:05 pm

**CLOSING REMARKS**  
**Kerry Neace**  
 Program Area Manager, The Johns Hopkins University Applied Physics Laboratory
- 5:05 – 6:30 pm

**NETWORKING RECEPTION**  
 KOSSIAKOFF CENTER MEZZANINE

## WEDNESDAY, OCTOBER 20

- 7:45 – 7:55 am

**WELCOME REMARKS**  
**Ken “Moose” Masson**  
 Chair, NDIA IPW Division & Senior Director Programs Washington, Northrop Grumman Defense Systems

**Jeff Braun**  
 Communications Chair, NDIA IPW Division
- 7:55 – 8:40 am

**KEYNOTE: INTEGRATED AND NETWORKED FIRES**  
**Kelly McCool**  
 Director, Digital Warfare Office, Office of the Chief of Naval Operations
- 8:40 – 9:25 am

**COMMAND AND CONTROL OF UNMANNED SYSTEMS AND WEAPONS**  
**Adam Johnston**  
 Principal Deputy Program Manager, Strike Planning and Execution Systems (PMA-281), Naval Air Systems Command
- 9:25 – 10:10 am

**MINOTAUR**  
**Gregg Goyette**  
 Assistant Program Area Manager, The Johns Hopkins University Applied Physics Laboratory
- 10:10 – 10:25 am

**NETWORKING BREAK**  
 KOSSIAKOFF CENTER MEZZANINE
- 10:25 – 11:10 am

**WEAPON ONE**  
**Dr. James Sumpter**  
 Air Force Research Laboratory Munitions Directorate

11:10 – 11:55 am	<b>DEFENSIVE/OFFENSIVE CYBER/EW</b> <b>Dr. Bill Conley</b> Senior Vice President and Chief Technology Officer, Mercury Systems
11:55 am – 12:55 pm	<b>LUNCH AND PRESENTATION OF THE 13<sup>TH</sup> RICHARD H. JOHNSON TECHNICAL ACHIEVEMENT AWARD</b> <b>Dr. Mikel Miller</b>
12:55 – 1:00 pm	<b>AFTERNOON KICKOFF</b> <b>Jeff Braun</b> Capture Manager and Principal Engineer, Systems, Planning & Analysis
1:00 – 1:45 pm	<b>F-35 BLOCK IV TECHNOLOGIES</b> <b>Andrew Thornberg</b> F-35 Joint Program Office (JPO), U.S. Air Force
1:45 – 2:30 pm	<b>FLIGHT EXPERIMENTS: BOLT AND BOLT II</b> <b>Sarah Popkin</b> Program Officer of AFOSR, U.S Air Force
2:30 – 3:15 pm	<b>SPEED TO LETHALITY: HYPERSONIC PAYLOADS</b> <b>Bob Addis</b> Lawrence Livermore National Laboratory
3:15 – 3:30 pm	<b>NETWORKING BREAK</b> KOSSIAKOFF CENTER MEZZANINE
3:30 – 4:15 pm	<b>COUNTER DIRECTED ENERGY</b> <b>Anthony Cain</b> Air Force Research Laboratory, Materials and Manufacturing, Photonics Materials Branch
4:15 – 4:30 pm	<b>CLOSING REMARKS</b> <b>Jeff Braun</b> Capture Manager and Principal Engineer, Systems, Planning & Analysis
4:30 – 6:00 pm	<b>NETWORKING RECEPTION</b> KOSSIAKOFF CENTER MEZZANINE

**THURSDAY, OCTOBER 21**

7:45 – 7:50 am	<b>WELCOME REMARKS</b> <b>Ken “Moose” Masson</b> Chair, NDIA IPW Division & Senior Director Programs Washington, Northrop Grumman Defense Systems
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7:50 – 7:55 am	<b>INTRODUCTION OF SPEAKER</b> <b>Dan Shaffer</b> Lockheed Martin RMS
7:55 – 8:40 am	<b>MISSILE DEFENSE AGENCY OVERVIEW</b> <b>Brad Cardwell</b> Program Manager, Missile Defense Agency
8:40 – 9:25 am	<b>MISSILE DEFENSE AGENCY KILL CHAIN</b> <b>Brad Cardwell</b> Program Manager, Missile Defense Agency
9:25 – 9:40 am	<b>NETWORKING BREAK</b> KOSSIAKOFF CENTER MEZZANINE
9:40 – 10:25 am	<b>KEYNOTE: PEO (WEAPONS) PERSPECTIVE</b> <b>BrigGen Heath Collins, USAF</b> Program Executive Officer, Weapons, and Director, Armament Directorate, Air Force Life Cycle Management Center, Air Force Material Command
10:25 – 11:10 am	<b>DEFENSE OPPORTUNITIES</b> Undisclosed Speaker: Confidential
11:10 – 11:55 am	<b>AEDC HYPERSONIC TESTING UPGRADES</b> <b>Joseph Coblish</b> Director of Wind Tunnel 9, Arnold Engineering Development Complex
12:00 – 12:30 pm	<b>CLOSING REMARKS</b> <b>Ken “Moose” Masson</b> Chair, NDIA IPW Division & Senior Director Programs Washington, Northrop Grumman Defense Systems
12:30 pm	<b>GRAB-AND-GO BOXED LUNCH</b>

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# BIOGRAPHIES



## BRIGADIER GENERAL HEATH A. COLLINS

*Program Executive Officer for Weapons and Director of the Armament Directorate  
Eglin Air Force Base*

Brig. Gen. Heath A. Collins is the Program Executive Officer for Weapons and Director of the Armament Directorate, Air Force Life Cycle Management Center, Air Force Material Command, Eglin Air Force Base, Florida. He is responsible for the planning and execution of all life cycle activities for air-delivered munitions, including the Advance Medium-Range Air-to-Air Missile, Hard Target Void Sensing Fuze, Joint Air-to-Surface Standoff Missile, Joint Direct Attack Munition; Joint Programmable Fuze, Miniature Air Launched Decoy; and Small Diameter Bomb. His \$92 billion portfolio also includes numerous other legacy weapons and ammunition; combat training systems; threat emitters for test and training purposes; and aerial targets including the QF-16 and BQM-167A.

Brig. Gen. Collins entered the Air Force in 1993, receiving his commission through the ROTC program at Clarkson University. His acquisition, space, test, operations and staff assignments have encompassed air-to-air missiles, electronic countermeasures, space, radar, intelligence, surveillance and reconnaissance, nuclear, fighter and bomber systems. He has served in numerous program management and senior-leader positions including Program Manager, Wideband Global Satellite Communications, Block 1 Program, Deputy Commander of the Wideband SATCOM Group, Commander, Space Based Infrared System Space Squadron, Senior Materiel Leader and Deputy Director for the Infrared Space Systems Directorate, and the Remote Sensing Systems Directorate. Brig. Gen. Collins has also served in the Office of the Under Secretary of Defense for Intelligence,

overseeing the department's Airborne ISR, Space and Special Programs. He is a graduate of the Air Command and Staff College and the Industrial College of the Armed Forces. He also holds master's degrees from Florida State University, Air University and National Defense University.

Prior to assuming his current duties, Brig. Gen. Collins served as the Program Executive Officer for Fighters and Bombers, Air Force Life Cycle Management Center, Air Force Material Command, Wright-Patterson Air Force Base, Ohio. He was responsible for the development, production, fielding, sustainment and modernization of the fighters and bombers portfolio, which includes the A-10, A-29, B-1, B-2, B-52, F-15, F-16, F-22 and special programs. He was also responsible for organizing, training and equipping the F-35 System Program Office.



## DR. BILLY MULLINS

*Associate Deputy Chief of Staff  
Strategic Deterrence and Nuclear Integration*

Dr. Billy W. Mullins, a member of the Senior Executive Service, is the Associate Deputy Chief of Staff, Strategic Deterrence and Nuclear Integration, Headquarters U.S. Air Force, Washington, D.C. He provides nuclear-focused expertise and leadership related to nuclear weapons and weapon systems policies, plans, technical procedures, programs and structures in support of the Air Force strategic deterrent

mission. He is the senior technical/scientific adviser to the Secretary of the Air Force and Chief of Staff of the Air Force on nuclear weapons and weapon systems.

Dr. Mullins served in the Air Force from 1978 until 1998, retiring as a lieutenant colonel. While on active duty he worked on advanced research and development projects such as the Airborne Laser Laboratory Program and the Shiva Star high-energy plasma effort. As a staff officer, he was assigned to the Office

of the Assistant Secretary of the Air Force for Acquisition and to the Air Staff. In these positions, he worked on sustainment of the nuclear stockpile, the B61 Mod 11 Program, and countering chemical and biological agent weapons. He entered federal civil service in 1998. Dr. Mullins has written or co-written numerous scientific papers and holds one patent for a sensitive position sensor which detects movements as small as one millionth of a centimeter.



## KELLY MCCOOL

*Director, Digital Warfare Office*  
Office of the Chief of Naval Operations

Ms. McCool is the Director, Digital Warfare Office (OPNAV N9DW)

assigned to the Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities, (OPNAV N9), Office of the Chief of Naval Operations. In addition, she reports to the Deputy Chief of Naval Operations for Information Warfare, (OPNAV N2N6), via a formal collaboration agreement between OPNAV N9 and N2N6. In this role, she is the Resource and Requirements sponsor for Project Overmatch, which is accelerating the delivery of the Naval Operational Architecture to the warfighter. She drives digital integration and transformation efforts that enhance the distributed force's lethality and decision-making capabilities.

Ms. McCool was appointed to the Senior Executive Service on September 2018 and has 31 years of civilian service. She earned a bachelor's degree in aerospace engineering and a master's degree in mechanical engineering from the University of Maryland. She is also a graduate of both the NAVAIR Senior Executive Management Development Program and the Federal Executive Institute's program for Leadership in a Democratic Society.

Ms. McCool previously served in various Naval Air Systems Command positions including the Director of the Mission Engineering and Analysis Department (AIR-4M), the Mission Area Lead Integrator for Surface and Strike Warfare (MALISS) in PEO Unmanned Aviation and Weapons,

and the Principal Deputy Program Manager for the Mission Integration and Special Programs Office (PMA-298). In addition, she has served as the Chief Engineer for the F-35 Lightning II Joint Strike Fighter Program Office and as the Technical Director for the Presidential Helicopter Program. In these positions, she was responsible for all technical and safety aspects of development, production and sustainment of both fielded and development aircraft.

Her awards include a Secretary of Defense Meritorious Civilian Service Award and a Department of the Navy Meritorious Civilian Service Award. She holds Level III certification in the Systems Planning, Research, Development and Engineering (SPRDE) career field.



## SAM TANGREDI

*Leidos Chair of Future Warfare Studies*

Professor of National, Naval and Maritime Strategy, Center for Naval Warfare Studies, U.S. Naval War College

Dr. Tangredi holds the Leidos Chair of Future Warfare Studies and is Professor of

National, Naval and Maritime Strategy in the Center for Naval Warfare Studies of the U.S. Naval War College. He has wide experience as a strategist and leader of strategic planning teams.

He has published six books, over 150 journal articles, and numerous analytical reports for a wide range of government agencies and academic organizations. His writings have won 14 awards for outstanding professional military literature. His latest book (co-edited with George Galdorisi) *AI at War: How Big Data, Artificial Intelligence, and Machine Learning Are Changing Naval Warfare* was published in April 2021 by Naval Institute Press.

A retired U.S. Navy Captain and surface warfare officer, he served in numerous warships and commanded USS Harpers Ferry (LSD-49). Among other assignments, he was Head of the Strategy and Concepts Branch of the Navy Staff, Director of the Strategic Planning for the Navy International Programs Office, and U.S. Defense Attaché to the Hellenic Republic of Greece.



## MICHAEL A. THOMPSON

*Principal Assistant Deputy Administrator for Stockpile Sustainment Office of Defense Programs  
National Nuclear Security Administration, U.S. Department of Energy*

As the Principal Assistant Deputy Administrator for Stockpile

Sustainment, Mr. Thompson is responsible for the work managed by the Offices of Stockpile Sustainment (NA-12), Secure Transportation (NA-15), and Systems Engineering and Integration (NA-18) as direct reports with a focus on meeting stockpile deliverables and reducing the time to execute warhead acquisitions while maintaining our high standards for performance and quality. The PADA for Stockpile Sustainment is the senior of the two civilian deputy positions and serves as the Acting Deputy Administrator when the Deputy Administrator's position is unavailable, or the position is awaiting a Presidentially appointed and Senate-confirmed individual.

In the absence of the Deputy Administrator for Defense Programs, Mr. Thompson is also currently performing the duties of the Deputy Administrator for Defense Programs, as of April 21, 2021. Here, he helps leads the team that directs the Stockpile Stewardship Program, which is responsible for maintaining the safety, security, and reliability of the Nation's nuclear weapons stockpile.

Prior to this assignment, Mr. Thompson was the Principal Assistant Deputy Administrator for Enterprise Capabilities, where he was responsible for the work managed by the Office of Research, Development, Test and Evaluation (NA-11) and the Office of Production Modernization (NA-19), with particular attention on the development of a longer-term vision, strategy, and plan for continued enterprise program facility modernization and underpinning science, technology, and engineering development needed to ensure a more responsive and resilient NNSA enterprise.

Mr. Thompson also served as the Assistant Deputy Administrator for Production Modernization to ensure the efficacy of the nuclear weapons stockpile by planning, executing, and monitoring the execution of all Production Modernization Programs that support the nuclear weapon stockpile. In this capacity, he was responsible for maintaining and improving the Nation's capability to produce primaries, secondaries, and non-nuclear components. Before this, Mr. Thompson also served as the Assistant Deputy Administrator for Major Modernization Programs, responsible for major weapon system acquisitions, including weapon life extension programs and modernization of strategic materials capabilities.

Mr. Thompson has led several Defense Programs offices, with responsibility for facility infrastructure and construction, budget formulation, and technical program direction. As a program manager, he held positions with increasing responsibility for facility operations and construction at Defense Programs sites. As a senior safety manager, Mr. Thompson led multiple teams to resolve technical, budgetary, and regulatory issues impacting safe facility operations. Prior to federal service, Mr. Thompson was a Marketing Representative for International Business Machines, serving major systems clients in Washington, DC.

Mr. Thompson is a retired Captain in the Naval Reserve, with experience leading crisis action teams in support of national exercises and real-world responses to terrorist attacks and disaster relief operations. He also served with the Navy Inspector General, conducting resource management assessments at over 30 commands worldwide. While on active duty, he qualified as a naval nuclear engineer and surface warfare officer.

Mr. Thompson is a graduate of the U.S. Naval Academy, with Masters degrees in Environmental Engineering from the Johns Hopkins University and National Security Strategy from the National War College.

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# AWARD WINNER

## DR. MIKEL M. MILLER

Dr. Mikel M. Miller is an internationally recognized expert in Position, Navigation, and Time (PNT) technologies. He is a proven technical executive with over 38 years of experience in executing, researching, developing, testing, integrating, and implementing state-of-the-art PNT hardware and software systems; and in leading, motivating, teaching, advising, and mentoring scientists and engineers. Dr. Miller has over thirty-four years of United States Air Force (USAF) service (twenty as an Active Duty Officer and fourteen as a Civil Servant), where he set the foundation for significant improvements in PNT resilience and robustness.

His significant PNT contributions started in 1988, where he served as the USAF's first Program Manager for GPS Test and Evaluation (T&E) at the 6585th Test Group at Holloman AFB, New Mexico where he managed the T&E of DOD GPS receivers used for land, sea, and air applications. Dr. Miller also served as the NAVSTAR GPS Joint Program Office (JPO) Deputy Test Director for several multi-service T&E programs for DoD GPS receivers. He also led the DoD's initial GPS receiver jamming/spoofing and velocity T&E programs which were essential in verifying GPS's resiliency and accuracy in challenging environments. While a professor at the Air Force Institute of Technology (AFIT), Mikel developed and taught courses in control, inertial navigation systems (INS), and GPS/INS integration to Air Force, Army, and international graduate students. He also directed DoD-specific research of masters and doctoral students

in electrical engineering focused on GPS/INS integration with other sensors and GPS receiver development to improve robustness in challenging environments. Dr. Miller also played a critical role in establishing the Advanced Navigation Technology (ANT) Center which has since been responsible for over 100 PNT related research projects to date.

Upon retiring from active duty, Mikel served in the Air Force Research Laboratory (AFRL) for fourteen years where he quickly rose from being a PNT Principal Engineer to PNT Branch Technical Advisor to an Advanced Guidance Technical Director, to the AFRL Munitions Directorate's Chief Scientist and finally to the USAF's and DoD's first ever Executive Senior Scientist for PNT. During this time, he served as the Air Force representative for OSD's first ever PNT Science and Technology (S&T) Roadmap Development Team that created the DoD's first comprehensive strategic roadmap to guide DoD S&T across all services. Dr. Miller also worked across the Air Force and Services to bring the PNT community together to open communication and eliminate R&D duplication. Internationally, since 2003, he has been the US's lead representative and PNT expert on four NATO Research and Technology Organization (RTO) technical teams all focused on improving PNT capabilities, robustness, and resiliency especially in challenging PNT environments. He has just been selected by NATO to lead a new RTO entitled "NATO PNT Open System Architecture & Standards to Ensure PNT in NAVWAR Environments."

In Dr. Miller's current position as Vice President for PNT Technology, Integrated Solutions for Systems (IS4S), he is leading the USAF's Resilient-Embedded GPS/INS (R-EGI) program which hopes to replace the DoD's proprietary EGIs with a DoD-owned Open Architecture that will enable technology insertion and refresh by the DoD and third party developers throughout the life-cycle of the program.

Finally, Dr. Mikel Miller has published over sixty-five technical papers and documents, presented over twenty conference Keynote Speeches, and served as an invited lecturer for over twenty-five short courses. He has also chaired three symposiums on Military Capabilities Enabled by Advances in PNT Systems and Sensors. He is the past President for the Institute of Navigation (ION) and past Chairman for the multi-service Joint Services Data Exchange (JSDE). He was also selected as one of GPS World's "50 Leaders to Watch for 2009-10." All of these significant contributions to PNT have been recognized by both national and international PNT organizations leading to his selection as Fellow of the ION for "Technical leadership in alternative navigation, significant navigation education activities, and visionary leadership within the ION" and the 2013 Weems Award winner for "his contributions to the management and encouragement of advanced navigation research" as well as Fellow of the Royal Institute of Navigation (RIN) for "Significant contributions to navigation."

# TABLETOP DISPLAY HOURS

**TUESDAY, OCTOBER 19**

7:45 am – 6:30 pm

**WEDNESDAY, OCTOBER 20**

7:45 am – 6:30 pm

**THURSDAY, OCTOBER 21**

7:45 am – 12:45 pm

## DISPLAYER DESCRIPTIONS

### L3HARRIS

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains. L3Harris has approximately \$18 billion in annual revenue and 47,000 employees, with customers in more than 100 countries. [L3Harris.com](http://L3Harris.com).

### MAROTTA

Marotta Controls' advanced technologies provide innovative control systems solutions for next-generation tactical systems. Marotta's capabilities include design, development, qualification, test and manufacturing, all completed on-site in its recently modernized and expanded facility. Technologies include electromechanical actuation systems, ruggedized power supply and conversion, including our patented 1-STEP AC-DC power conversion, and advanced electronic motor controls. Our innovative engineering team designs systems with optimized packaging, high efficiency and high reliability to meet the challenges of extreme environments.

### NORTHROP GRUMMAN

Northrop Grumman solves the toughest problems in space, aeronautics, defense and cyberspace to meet the ever-evolving needs of our customers worldwide. Our 90,000 employees are Defining Possible every day using science, technology, and engineering to create and deliver advanced systems, products, and services.



## STAY UP TO DATE ON CHANGES AND TRENDS IN REGULATORY POLICY WITH NDIA'S POLICY BLOG

The NDIA Policy Team monitors, advocates for, and educates government stakeholders on policy matters of importance to the defense industrial base. Help ensure the continued existence of a viable, competitive national technology and industrial base by keeping up with the latest reforms, rules, and regulations.

**Read more at [NDIA.org/PolicyBlog](http://NDIA.org/PolicyBlog)**





## AN ONLINE COMMUNITY FOR DEFENSE PROFESSIONALS

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As the National Defense Industrial Association's members-only online community, NDIA Connect offers 24/7 exclusive access to content, contacts, and collaboration capabilities. Each day, defense professionals from around the world post their thoughts, questions, and answers related to topics ranging from cybersecurity and the space domain to international trade regulations and human systems. Log in today to join these conversations and take advantage of all that NDIA Connect enables:

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# LEADING THE WAY IN ENGAGEMENT, NETWORKING, AND NATIONAL DEFENSE

PLAN AHEAD FOR SUCCESS | 2021-22 FEATURED MEETINGS, CONFERENCES, AND EVENTS



## 2021 FUTURE FORCE CAPABILITIES CONFERENCE AND EXHIBITION

October 18 – 21 | Columbus, GA

Autonomous Systems | GARM | Live Fire | Multi-Domain | Small Arms | Explosive Ordnance Disposal



## 24<sup>TH</sup> ANNUAL SYSTEMS & MISSION ENGINEERING CONFERENCE

December 6 – 8, 2021 | Virtual

Engineering & Manufacturing | Human Systems Integration | Security Engineering | Systems Architecture Systems



## PRECISION STRIKE TECHNOLOGY SYMPOSIUM (PSTS-21)\*

October 19 – 21, 2021 | Laurel, MD

Hypersonics | Cruise Missiles | Non-kinetic Strike | Stand-off Weapons



## 2022 TACTICAL WHEELED VEHICLES CONFERENCE

February 28 – March 2 | Norfolk, VA

Autonomous Vehicles | Electric Drive | Modernization & Sustainment | Acquisition



## 2021 UNDERSEA WARFARE FALL CONFERENCE

October 25 – 27 | Groton, CT

Aviation USW | C4I | Mine Warfare | Undersea Sensors & Vehicles | Warfighter Performance



## 2022 PACIFIC OPERATIONAL SCIENCE & TECHNOLOGY (POST) CONFERENCE\*\*

March 7 – 8 (Unclassified), 9 – 10 (Classified) | Honolulu, HI

Regional Security | Science & Engineering Technology | Technology Engagement



## 2021 AIRCRAFT SURVIVABILITY SYMPOSIUM\*

November 2 – 4 | Monterey, CA

Combat Survivability | Concealment and Deception | Countermeasures | Urban Warfare | Vulnerability Reduction



## 2022 UNDERSEA WARFARE SPRING CONFERENCE

March 28 – 30 | San Diego, CA

Aviation USW | C4I | Mine Warfare | Undersea Sensors & Vehicles | Warfighter Performance



## 32<sup>ND</sup> ANNUAL NDIA SO/LIC SYMPOSIUM

November 3 – 4, 2021 | Washington, DC

Special Operations Forces | Strategic Competition



## 65<sup>TH</sup> ANNUAL FUZE CONFERENCE\*\*

May 10 – 12, 2022 | Seattle, WA

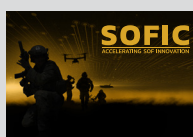
Fuze | Missiles | Munitions Technology | Safety & Arming Devices | Warheads



## 2021 JOINT NDIA/AIA FALL

November 8 – 10 | Chantilly, VA

Industrial Security | Insider Threat | Cybersecurity/CMMC | NISPOM Updates



## 2022 SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE & EXHIBITION (SOFIC)

May 16 – 19 | Tampa, FL

Communications | Light Vehicles | Small Arms | Special Operations



## I/ITSEC 2021

November 29 – December 3 | Orlando, FL

Simulation | Training | Virtual Reality

\*All Classified | \*\*Partially Classified

VISIT [NDIA.ORG](https://ndia.org) FOR MORE INFORMATION ON ALL OF OUR MEETINGS, CONFERENCES, AND EVENTS