

AT THE HEART  
OF THE MISSION

**NDIA**



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# 2019 **ARMAMENT** SYSTEMS FORUM

Leveraging Armament Technology Integration to Achieve  
Modernization, Overmatch, and Operational Readiness

June 3 – 6 | Fredericksburg, VA | [NDIA.org/Armaments19](http://NDIA.org/Armaments19)

## MONDAY, JUNE 3

11:00 am – 5:00 pm **REGISTRATION**  
EXHIBIT HALL A LOBBY

### TUTORIALS (DISTRIBUTION A)

	Ballroom A	Ballroom B	Ballroom C
12:30 – 2:00 pm	<b>Tutorial 1: U.S. Export Controls Related to Technology</b> <b>Johanna Reeves</b> Founding Partner, Reeves & Dola, LLP	<b>Tutorial 2: Requirements Capability Process Intelligence</b> <b>Dwayne Hynes</b> Acquisition Intelligence Specialist, USD, Department of Defense	<b>Tutorial 3: Middle Tier Acquisition – Section 804</b> <b>Lynne Giordano</b> Professor of Acquisition Management, Defense Systems Management College, Defense Acquisition University
2:00 – 3:30 pm	<b>Tutorial 4: Industrial Base Cyber Risks and Protection</b> <b>Susan Warshaw Ebner</b> Partner, Stinson LLP  <b>Rolando Sanchez</b> Sanchez PLC	<b>Tutorial 5: What Gun and Ammunition Designs Need to Know About Case-Chamber Interaction</b> <b>Jeff Siewert</b> Systems Engineer, Arrow Tech Associates	<b>Tutorial 6: Evolving Platform and Armament System Integration</b> <b>Dave Broden,</b> Broden Resource Solutions LLC <i>Moderator</i>  <b>Dr. Joshua Keena</b> Assistant Professor Automotive/ Weapons Thread Leader, U.S. Military Academy at West Point  <b>Mark Signorelli</b> BAE Systems Platforms and Services  <b>Matt Dooley</b> Chair, Robotics Division, NDIA  <b>John Chadbourne</b> SVP, AM General  <b>Barry Tyree</b> Chair, Tactical Wheeled Vehicles Division, NDIA  <b>Art O'Donnell</b> Northrop Grumman Innovation Systems
3:30 – 5:00 pm	<b>Tutorial 7: Artificial Intelligence</b> <b>Ross Arnold</b> Senior Research Engineer for Artificial Intelligence, Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command  <b>Dr. Jorge Buenfil</b> Model-Based Systems Engineer Lead, Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command	<b>Tutorial 8: DOD Foreign Comparative Testing Overview</b> <b>Col Doug Creviston, USAF</b> Director of the DoD Comparative Testing Office, OUSD R&E	<b>Tutorial 9: Intellectual Property Objectives, Criteria, and Approach</b> <b>Col Wesley Hallman, USAF (Ret)</b> Senior Vice President, Policy and Strategy, NDIA  <b>Corbin Evans</b> Director, Regulatory Policy, NDIA

## TUESDAY, JUNE 4 – GENERAL SESSION (DISTRIBUTION A)

7:00 am – 6:30 pm **REGISTRATION**  
EXHIBIT HALL A LOBBY

7:00 – 8:00 am **NETWORKING BREAKFAST**  
GRAND BALLROOM FOYER

8:00 – 8:10 am **WELCOME AND OPENING REMARKS**  
GRAND BALLROOM

**Dave Broden**  
NDIA Armament Division Chair

**Dave Chesebrough**  
Vice President, Divisions, NDIA

8:10 – 8:30 am **WELCOME FROM TEAM CRUCIBLE**  
GRAND BALLROOM

**John Garman**  
President, Team Crucible

8:30 – 9:00 am **NDIA ENTERPRISE VISION AND POLICY INITIATIVES**  
GRAND BALLROOM

**MG James Boozer, USA (Ret)**  
Executive Vice President, NDIA

**Col Wesley Hallman, USA (Ret)**  
Senior Vice President, Strategic Program & Policy, NDIA

9:00 – 9:30 am **KEYNOTE SPEAKER**  
GRAND BALLROOM

TBD

9:30 – 10:00 am **FEATURED SPEAKER**  
GRAND BALLROOM

**BG Alfred Abramson, USA**  
Program Executive Officer & Senior Commander, Picatinny Arsenal, Joint Program Executive Office Armaments and Ammunition (JEPO A&A)

9:30 am – 6:30 pm **EXHIBIT HALL OPEN**  
EXHIBIT HALL A

10:00 – 10:30 am **NETWORKING BREAK & POSTER REVIEW**  
EXHIBIT HALL A

10:30 – 11:00 am	<b>FEATURED SPEAKER</b> GRAND BALLROOM <b>COL John Rafferty, USA</b> Director, Long Range Precision Fires Cross Functional Team, U.S. Army Futures Command
11:00 – 11:30 am	<b>FEATURED SPEAKER</b> GRAND BALLROOM <b>Anthony Sebasto</b> Executive Director, Enterprise and Systems Integration Center, RDECOM-ARDEC
11:30 am – 12:00 pm	<b>FEATURED SPEAKER</b> GRAND BALLROOM <b>Dr. Michael Richman</b> SSTM, Technical Deputy, Missile Modernization and Development CCDC Aviation and Missile Center
12:00 – 1:00 pm	<b>NETWORKING LUNCH</b> EXHIBIT HALL A
1:00 – 1:30 pm	<b>FEATURED SPEAKER</b> GRAND BALLROOM <b>Ashley Johnson</b> Technical Director, NSWC Indianhead Explosive Ordnance Disposal Technology Division
1:30 – 2:00 pm	<b>FEATURED SPEAKER</b> GRAND BALLROOM <b>Dr. David Lambert</b> Chief Scientist, Munitions Directorate, Air Force Research Laboratory

## SMALL ARMS TRACK (DISTRIBUTION A)

ROOM AF

### Joint Service Small Arms Synchronization Team (JSSAST) Panel

1:00 – 2:00 PM

#### MAJ Ian Welch

MILDEP, JSSAP Office, Combat Capabilities Development Center, Armaments Center, U.S. Army Futures Command  
*Moderator*

#### Matthew Walker

Capabilities Developer, Soldier Lethality Cross Functional Team, U.S. Army Futures Command

#### Christopher Woodburn

Capabilities Development Director

#### Col Enrico Venditti, USAF

U.S. Air Force Security Forces Center

#### Craig LaMudge

Office of Specialized Capabilities, U.S. Coast Guard

#### LCDR Peter Downes, USN

DCNO N9

*Invited*

#### LTC Marcos Cervantes, USA

PEO SOF Warrior

2:00 – 2:30 pm

**WEAPONS FOR A  
DISAGGREGATE BATTLE**  
GRAND BALLROOM

**MG Robert Scales, USA (Ret)**  
Former Commandant, U.S. Army War College

**SMALL ARMS TRACK**

ROOM AF

**Joint Services Small Arms Program  
(JSSAP) Introduction**

2:00 – 2:05 PM

**Augustine Funcasta**

Chief JSSAP Office, CCDC Armaments Center, U.S.  
Army Futures Command

**Joint Services Small Arms  
Requirements Integration (JSSARI)**

2:00 – 2:15 PM

**Mark McFadden**

JSSARI Working Group Chairman, Combat Capabilities  
Development Center, Armaments Center, U.S. Army  
Futures Command

**Joint Science And Technology  
Advisory Council (JSATC)**

2:15 – 2:30 PM

**Marc Ritt**

JSATC Deputy Chairman, CCDC Armaments Center,  
U.S. Army Futures Command

2:30 – 3:00 pm

**NETWORKING BREAK & POSTER REVIEW**  
EXHIBIT HALL A

## PREMIER SPONSOR DESCRIPTIONS



**GEISSELE**

Geissele Automatics has been supplying Special Operations Forces with solutions to complex mechanical problems since the early days of the War on Terror. Innovative weapon systems, precision marksman rifles, complete receiver groups, trigger assemblies, handguards and specialty elector-optical mounts are all manufactured in our spacious high technology facility in North Wales, Pennsylvania. Our focus is customer driven, we thrive on a custom approach to each problem. One solution does not fit all, and our engineers can craft the right fix specific to the particular needs of SOF environments.

3:00 – 3:45 pm

## USMC CAPABILITY OBJECTIVES AND PROGRAMS

GRAND BALLROOM

**Col Michael Manning, USMC**

USMC Portfolio Manager Ground Combat Element Systems  
*Moderator*

**LtCol Tim Hough, USMC**

Program Manager, Infantry Weapons

**LtCol Brad Sams, USMC**

Program Manager, Fires, USMC

**John Knapp**

Program Manager, Infantry Combat Equipment, USMC

3:45 – 4:30 pm

## JOINT NON-LETHAL WEAPONS DIRECTORATE (JNLWD)

GRAND BALLROOM

**Kevin Swenson**

Acquisition Division Chief, Joint Non-Lethal Weapons  
Directorate (JNLWD)

**David Law**

Technology Division Chief, Joint Non-Lethal Weapons  
Directorate (JNLWD)

**Herman Pfaeffle**

Deputy Technology Division Chief, Joint Non-Lethal  
Weapons Directorate (JNLWD)

4:30 – 5:00 pm

## FEATURED SPEAKER

GRAND BALLROOM

**Charlie Zisette**

Executive Director, National Armaments Consortium

5:00 – 5:10 pm

## CLOSING REMARKS

GRAND BALLROOM

5:00 – 6:30pm

## NETWORKING RECEPTION

EXHIBIT HALL A

## SMALL ARMS TRACK

ROOM AF

### Joint Services Small Arms Program (JSSAP) Portfolio

3:00 – 3:30 PM

**Terence Rice**

Projects Managements Engineer, CCDC Armaments  
Center, U.S. Army Futures Command

### JSSAP Special Topics Update

3:30 – 4:00 PM

**Matthew Moeller**

Project Officer, Next Gen Squad Weapons Technologies,  
CCDC Armaments Center, U.S. Army Futures Command

**Adam Jacob**

Suppressor IPT Lead, Signature Suppression, CCDC  
Armaments Center, U.S. Army Futures Command

### Small Arms Awards Ceremony

4:00 – 5:00 PM

**Chinn Award**

**Thomas Nelson**

Presented by Dan Shea

**Hathcock Award**

**Bryan Litz**

Presented by Sal Fanelli

**Ambrose Award**

**Arrow Tech Associates, Inc** accepted by

**Jeff Siewert**

Presented by Sal Fanelli

**Professional Service Award**

**Mike Tauber, in memoriam**

Presented by Brian Berger

# WEDNESDAY, JUNE 5

	Small Arms Track: Session 1 Room A, Distribution A	GARM Track: Session 1 Room CD, Distribution A	UEA Track: Session 1 Room BE, Distribution D
7 am	<b>BREAKFAST - GRAND BALLROOM FOYER</b>		
7:30 am	<b>Small Arms Administrative Announcements</b> <b>Brian Berger</b> NDIA Small Arms Committee Chair	<b>GARM Administrative Announcements</b>  <b>Matt Phillips</b> NDIA GARM Committee Chair	<b>UEA Objectives, Purpose, Challenges, Opportunities</b>  <b>Alan Kull</b> NDIA UEA Committee Chair
7:40 am	<b>Modern Trends, Threats, and Developments in Global Ordnance</b>  <b>Dan Shea</b> Phoenix Defence		<b>Cost Effective C-UAS using COTS Components to improve Exchange Rate</b>  <b>Howard Kent</b> Armor Development Group, LLC
8:00 am	<b>PM Maneuver Ammunitions Systems (MAS) Panel</b>  <b>COL Hector Gonzalez</b> Project Manager, Maneuver Ammunition Systems <i>Moderator</i>  <b>LTC Andre Johnson, USA</b> Product Manager, Medium Caliber Ammunition  <b>LTC Andrew Lunoff, USA</b> Product Manager, Small Caliber Ammunition	<b>CCDC Armament Center GARM Related System Technology</b>  <b>Mike George</b> Acting Director of Technology, Strategic Technology Investment Office, CCDC Armament Center, U.S. Army Futures Command	<b>Semi-Autonomous Slew and Firing to defeat Highly Maneuvering Aerial Targets</b>  <b>Cliff Chang</b> Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command
8:30 am		<b>CCDC AvMC GARM Related Technology</b>  <b>Susan Dunbar</b> Technology, Chief, CCDC Aviation and Missile Center, U.S. Army Futures Command	<b>40MM Low Velocity Counter Unmanned Aerial System</b>  <b>Cheng Hok Aw</b> Advanced Material Engineering
9:00 am	<b>PM Soldier Weapons Panel</b>  <b>COL Elliott Caggins, USA</b> Product Manager, Soldier Weapons <i>Moderator</i>  <b>LTC Jason Bohannon, USA</b> Product Manager, Next Generation Weapons  <b>LTC Steven Power, USA</b> Product Manager, Soldier Weapons  <b>Peter Errante</b> Product Director, Crew Served Weapons  <b>Matthew Walker</b> Capabilities Developer, Soldier Lethality Cross Functional Team, U.S. Army Futures Command	<b>Close Combat Support to Army Modernization Priorities</b>  <b>Joe Pelino</b> Deputy Project Manager, Close Combat Systems	<b>How Block Chain and Smart Contracts Will Impact Armament Systems</b>  <b>Ralph Tillinghast</b> CCDC Armaments Center, U.S. Army Futures Command
9:30 am		<b>Combat Ammunition Systems Support to Army Modernization Priorities</b>  <b>Bill Kuhnle &amp; Matt Glaser</b> Ammunition SME's	<b>Examination of Networked Small Arms Weapons and Fire Control</b>  Speaker Pending
			<b>Pulsed Power Developments for Directed Energy Systems</b>  <b>Charlie Wiesel</b> VIS, LLC
10 am	<b>NETWORKING BREAK &amp; POSTER REVIEW - EXHIBIT HALL A</b>		

	Small Arms Track: Session 1	GARM Track: Session 1	UEA Track: Session 1
	Room A, Distribution A	Room CD, Distribution A	Room BE, Distribution D
10:30 am	<b>Unconventional Emerging Technology Armament Systems</b>  Vincent Battaglia BML Tool Manufacturing	<b>Next Generation Combat Vehicle (NGCV) Vision</b>  COL Warren Sponsler, USA Lead, Next Generation Combat Vehicles Cross Functional Team, U.S. Army	<b>Reference Architecture for Deep Learning Based Security Systems</b>  Jorge Buenfil CCDC Armaments Center, U.S. Army Futures Command
10:50 am	<b>Lightweight Small Cal Ammunition Panel</b>  LTC Andrew Lunoff, USA Product Manager, Small Caliber Ammunition <i>Moderator</i>  Mark Owens True Velocity  Lanse Padgett PCP  Joe Gibbons MAC  Pierre Lemay GD-OTS Canada  Gino Spinos Concurrent Technology Corp (CTC)	<b>NGCV System, Technology, and Vision Panel</b>  Dave Broden NDIA Armaments Division Chair <i>Moderator</i>  LTC Andre Johnson, USA Product Manager, Medium Caliber Ammunition  Gary Milcheck Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command  Jeff Hart Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command  Spenser Hudson CCDC Aviation and Missile Command, U.S. Army Futures Command  Robert Ruhland Northrop Grumman Innovation Systems  Tim Brumfield Northrop Grumman Innovation Systems  Matt Phillips General Dynamics  Erik Eickstaedt Northrop Grumman Innovation Systems  Kyle Patterman Meggitt Defense Systems	<b>Multicore Considerations for Safety Critical Software Applications</b>  Brian Connell CCDC Armaments Center, U.S. Army Futures Command
11:10 am			<b>Low Cost COTS-Based VTOL UAS for Stealthy Take Downs</b>  Robert Serino Applied Research Associates, Inc.
11:30 am			<b>Applying Multi-Agent Swarm Artificial Intelligence to Armament Systems</b>  Ross Arnold Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command
12 pm	NETWORKING LUNCH - EXHIBIT HALL A		

	Small Arms Track: Session 2	Small Arms Track: Session 3	GARM Track: Session 1	UEA Track: Session 1
	Room A, Distribution A	Room F, Distribution A	Room CD, Distribution A	Room BE, Distribution D
1:00 pm	<b>Fire Control Technology and System Panel</b>  <b>Terence Rice</b> Projects Management Engineer, JSSAP <i>Government Moderator</i>	<b>Propellant Optimization</b>  <b>Tyler Holland</b> CCDC Armaments Center, U.S. Army Futures Command  <b>Andrew Caldwell</b> Olin Corp – Winchester Division	<b>Long Range Precision Fires (LRPF) Panel</b>  <b>Dave Broden</b> NDIA Armaments Division Chair <i>Moderator</i>  <b>COL John Rafferty</b> LRPF CFT Director, U.S. Army Futures Command	<b>Distributed, Coordinated, and Cooperative Defeat Technologies</b>  <b>Dr. David Lambert</b> Chief Scientist, Munitions Directorate, Air Force Research Laboratory
1:20 pm	<b>Bob Guarasi</b> Business Development, Wilcox Industries <i>Industry Moderator</i>  <b>Paul Koerner</b> PM Soldier Weapons  <b>Doug Cohen</b> PM Soldier Weapons	<b>Contributing Factors in Small Cal Pierced Primers</b>  <b>Andy Boman</b> Northrop Grumman Innovation Systems	<b>Ole Knudson</b> Northrop Grumman Innovation Systems  <b>David Musgrave</b> CCDC, U.S. Army Futures Command	
1:40 pm	<b>Lloyd Luedtke</b> DPM SSL  <b>Ross Towers</b> Fire Control, U.S. Army Futures Command  <b>Darren Ward</b> Fire Control, U.S. Army Futures Command	<b>Environmentally Benign Composition for the M209 Shotshell Primer</b>  <b>Jared Moretti</b> CCDC, U.S. Army Futures Command  <b>Jim Wedwick</b> Northrop Grumman Corporation	<b>Rich Granitzki</b> CCDC, U.S. Army Futures Command  <b>Dr. Michael Richman</b> CCDC, U.S. Army Futures Command  <b>Charles Hayden</b> General Dynamics	<b>Emerging Technology System Perspective – Army</b>  <b>Craig Robins</b> U.S. Army Space and Missile Defense Command Technical Center
2:00 pm	<b>Dr. Mark Thoreson</b> NSWC Crane  <b>Dean Kissinger</b> PM, IVAS  <b>Tony Bacarella</b> DRS EOIS  <b>Emmet Burke</b> BAE Systems  <b>Brian Bockmon</b> Aim-Lock, Inc.  <b>Lennart Ljungfelt</b> Aimpoint	<b>Incendiary Composition Analytical Study for Small Cal Ammunition</b>  <b>Daniel Mansfield</b> Northrop Grumman Corporation, Lake City Army Ammunition Plant	<b>Long Range Precision Fires CCDC AC</b>  <b>Mike George</b> Acting Director of Technology, Strategic Technology Investment Office	<b>Emerging Technology System Perspective – Navy</b>  <b>Dr. Frank Peterkin</b> Office of Naval Research
2:30 pm	<b>NETWORKING BREAK &amp; POSTER REVIEW - EXHIBIT HALL A</b>			
3:00 pm	<b>“Gummy” Metals – Why Difficult to Cut and What Can be Done About it</b>  <b>Jason Davis</b> NSWC Crane	<b>Case Rupture</b>  <b>Zachary Krogstad</b> CCDC Armament Center, U.S. Army Futures Command  <b>Robert Woolsey</b> Northrop Grumman Corporation	<b>Long Range Precision Fires CCDC Aviation and Missile Center</b>  <b>Dr. Michael Richman</b> CCDC Aviation and Missile Command, U.S. Army Futures Command	<b>Emerging Technology System Perspective - USAF</b>  <b>Dr. Don Shiffler</b> Chief Scientist, AFRL Directed Energy Directorate, AFMC AFRL/RD

	Small Arms Track: Session 2	Small Arms Track: Session 3	GARM Track: Session 1	UEA Track: Session 1
	Room A, Distribution A	Room F, Distribution A	Room CD, Distribution A	Room BE, Distribution D
3:20 pm	<b>0.50 Cal Ball/Trace Cartridge Match Improvements</b> <b>David Stubler</b> Northrop Grumman	<b>Improving Gun Barrel Life and Accuracy</b> <b>George Kontis</b> Gun IQ International, LLC	<b>Future Vertical Lift (FVL) and Armament System Panel</b> <b>Matt Phillips</b> NDIA GARM Committee Chair <i>Moderator</i>	<b>Enhancing Weapons Capabilities through Smart Sensors</b> <b>Robert Meng</b> Secubit, Inc.
3:40 pm	<b>AeroShell Armor-Piercing Projectiles</b> <b>Lucius Taylor IV</b> NSWC Crane	<b>100 KPsi Demonstrator Rifle: Over-Proof Round Pressures to Improve Advanced Ballistic Performance</b> <b>Howard Kent</b> Armor Development Group, LLC	<b>Michael Colonnello</b> CCDC Armaments Center, U.S. Army Futures Command <b>Bradford McHugh</b> CCDC Armaments Center, U.S. Army <b>Rusty Graves</b> Deputy Director, CCDC Aviation and Missile Command, U.S. Army Futures Command	<b>Speed of Battle</b> <b>LTC Johnson, USA</b> WSEC MILDEP, CCDC Armaments Center, U.S. Army Futures Command
4:00 pm	<b>Sound Testing of Small Arms Weapons</b> <b>Laura Best</b> NSWC Crane	<b>Systemic Effects of Cartridge and Weapon Barrel Variation</b> <b>Thomas Gmyrek</b> Caliber .50 APO	<b>Jim St. Germain</b> General Dynamics <b>Art O'Donnell</b> Northrop Grumman Innovation Systems <b>Jennifer Zonneveld</b> Northrop Grumman Innovation Systems	<b>Quantifying the Accuracy of Wind Estimation Techniques in Direct Fire Ballistics</b> <b>Tomas Bober</b> CCDC Armaments Center, U.S. Army Futures Command
4:20 pm	<b>High Performance Composite Machine Gun Barrels</b> <b>David Armstrong</b> NSWC Crane	<b>Reevaluating Condemnation Criteria for Barrel Erosion/Wear</b> <b>Anthony Hawthorne</b> Combat Capabilities Development Command, U.S. Army Futures Command	<b>Artificial Intelligence - Emerging Application "Real World Applications vs Myths: What to Believe About Emerging AI"</b> <b>Charlie Burgoyne</b> Valkyrie Intelligence	<b>Protecting Smart Launchers using Advanced Anti-Spoofing</b> <b>Steve Alexander</b> L3 Technologies
4:40 pm	<b>Full-Auto Cycle Rate Reducer Transforms M4/M16 in New Full-Automatic Fire Scenario</b> <b>Terrence Bender</b> High Performance Firearms, LLC	<b>M14 Short Stroke - Analysis of Ammunition and Weapons System Influencing Factors</b> <b>Elyse Barone</b> CCDC Armaments Center, U.S. Army Futures Command <b>Tim Good</b> Northrop Grumman Corporation		<b>Virtual Reality Prototyping for Fire Control Platforms</b> <b>David Musgrave</b> CCDC Armaments Center, U.S. Army Futures Command
5 pm	<b>NETWORKING RECEPTION- EXHIBIT HALL A</b>			

# THURSDAY, JUNE 6

	Small Arms Track: Session 4	GARM Track: Session 2	GARM Track: Session 3	UEA Track: Session 2	
	Room A, Distribution A	Room F, Distribution D	Room CD, Distribution A	Room BE, Distribution D	
7 am	<b>BREAKFAST - GRAND BALLROOM FOYER</b>				7 am
7:30 am	<b>Small Arms Administrative Announcements</b> <b>Brian Berger</b> NDIA Small Arms Committee Chair	<b>GARM Administrative Announcements</b>	<b>GARM Administrative Announcements</b>	<b>UEA Objectives, Purpose, Challenges, Opportunities</b> <b>Alan Kull</b> NDIA UEA Committee Chair, NDIA Armaments Division	7:30 am
7:40 am	<b>40mm Low Velocity</b> <b>Jay Bell</b> MAST Technology, Inc.	<b>XM913 50mm Chain Gun Technology Development</b> <b>Tim Brumfield</b> Northrop Grumman Innovation System	<b>The Joint Packaging, Handling, Storage, and Transportation Center</b> <b>Robert Rossi</b> CCDC Armaments Center, U.S. Army Futures Command	<b>Services Perspective on Hypersonics</b> <b>U.S. Army</b> <b>Speaker Pending</b> <b>U.S. Navy</b> <b>CAPT John Lowry, USN</b> Program Manager Conventional Prompt Strike Strategic Systems Programs <b>U.S. Air Force</b> <b>David Lambert</b> Chief Scientist, Munitions Directorate, AFRL	7:45 am
8:00 am	<b>M80A1 Dispersion Reduction</b> <b>Zachary Krogstad</b> CCDC Armament Center, U.S. Army Futures Command <b>Steve Redd</b> Northrop Grumman Innovation Systems	<b>Excalibur Shaped Trajectory</b> <b>Arnaldo Colon</b> Precision Indirect Fires, Land Warfare Systems, Raytheon	<b>Reactive Material Technology and Application</b> <b>Jeb Brough</b> MATSYS, Inc.		
8:20 am	<b>Greater Penetration and Lethality for Small Bore Rifle, PDW and Handgun Cartridges</b> <b>Jonathan Berman</b> Ammo and Bullet Mfg, Inc.	<b>155MM Artillery Platform Projective Fallback Sensor</b> <b>Kevin Boland</b> CCDC Armament Center, U.S. Army Futures Command	<b>Development of High Reliability DPICM Replacement</b> <b>Kevin Cochran</b> NSWC IHEOOTD Fuze and Initiation Systems Branch		
8:40 am	<b>Observations and Opportunities in Small Caliber Dispersion</b> <b>Jeff Siewert</b> Arrow Tech Associates, Inc.	<b>Armaments Health Monitoring for Autonomous Systems</b> <b>Anthony Cannone</b> CCDC Armaments Center, U.S. Army Futures Command	<b>Low-Blast High-Impulse Densified Propellant for Recoilles Gun, Rocket, Missile Systems</b> <b>Matthew Sanford</b> Naval Surface Warfare Center Indian Head Explosives Ordnance Disposal Technology Division		

	Small Arms Track: Session 4	GARM Track: Session 2	GARM Track: Session 3	UEA Track: Session 2	
	Room A, Distribution A	Room F, Distribution D	Room CD, Distribution A	Room BE, Distribution D	
9:00 am	<b>Reduced Range Ammunition Panel</b>  Maverick Powell USMC PM Ammo <i>Moderator</i>  Ray Chaplin    Kyle Kampo Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command  Evan Poole U.S. Crane  Pierre Lemay GD-OTS Canada  Kim Helge Dahl Nammo Talley, Inc.  Marcelo Moreno Companhia Brasileira de Cartuchos (CBC)	<b>Technical Challenges Associated with Large Caliber Extended Range Missions: Gun Mounts</b>  Samuel Jacobs CCDC Armaments Center. U.S. Army Futures Command	<b>USN Quad City Rock Island Arsenal Cartridge Case Capability</b>  Mike Hagn	<b>Industry Perspectives on Hypersonics</b>  Arthur Mabbet Director, Adv High Speed Weapons, Raytheon Missile Systems  John Wilcox VP, Advanced Programs & Technology, Northrop Grumman Innovation Systems  Kevin Bowcutt Senior Technical Fellow and Chief Scientist of Hypersonics, Boeing	9:00 am
9:20 am		<b>Burst Test of Composite Mortar Tube Section: Modeling and Experimentation</b>  Andrew Littlefield RDECOM, CCDC Armaments Center. U.S. Army Futures Command	<b>USN Indianhead Trident Plant Revitalization Propulsion Capability/Technology</b>  Wayne Thomas		
9:40 am		<b>Fuze and Precision Armaments Test Capabilities and Facilities</b>  Pamela Ferlazzo Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command	<b>Fire Suppression Round</b>  Joshua Keena Assistant Professor Automotive/Weapons Thread Leader, U.S. Military Academy at West Point		
10 am	NETWORKING BREAK - GRAND BALLROOM FOYER				

	Small Arms Track: Session 4	GARM Track: Session 2	GARM Track: Session 3	UEA Track: Session 2	
	Room A, Distribution A	Room F, Distribution D	Room CD, Distribution A	Room BE, Distribution D	
10:30 am	<b>Ammunition Production Equipment Diagnosis</b> <b>Katelyn Riha</b> Northrop Grumman Innovation Systems <b>William Pendexter</b> CCDC, U.S. Army Futures Command GD-OTS Canada	<b>Laser-Based Inspection of Weapon Bores and Chambers</b> <b>James Doyle</b> Laser Techniques Company	<b>Muzzle Obstruction and Obstacle Sensor Enhancement (MOOSE)</b> <b>Joshua Keena</b> Assistant Professor Automotive/Weapons Thread Leader, U.S. Military Academy at West Point	<b>Hypersonic Systems Panel Discussion</b> <b>Speakers from previous sessions</b>	10:30 am
10:50 am	<b>Quantifying Bullet Performance Against Transparent Barriers</b> <b>Martin Viligiardi</b> QuinteQ	<b>Interplay of Finite Element Modeling and Experiments in a Weapons Development Project</b> <b>John Yagla</b> Bowhead Technical Services	<b>20mm Mechanically Fuzed High Explosive Projectile</b> <b>Trevor Coop</b> General Dynamics		
11:10 am		<b>Simplified Instrumentation for Radiometrically Accurate Flash Movements</b> <b>David Dye</b> NSWC Crane	<b>Advanced Shoulder Fired Weapon and Ammunition System</b> <b>Dr. David Grymonpré</b> Energetics		
11:40 am	<b>Marksmanship Dispersion, Statistical Approach to Dispersion and Recoil</b> <b>Shawn Spickert-Fulton</b> Combat Capabilities Development Center Armaments Center, U.S. Army Futures Command			<b>Emerging Technology Systems Panel</b> <b>Alan Kull</b> NDIA UEA Committee Chair <b>Dr. David Lambert</b> Chief Scientist, Munitions Directorate, Air Force Research Laboratory <b>Craig Robin</b> Space and Missile Defense Command/TC <b>Mike George</b> Acting Director of Technology, Strategic Technology Investment Office, CCDC Armament Center <b>Dr. Don Shiffler</b> Chief Scientist, AFATL Directed Energy <b>Rob Esslinger</b> CCDC Armaments Center, High Speed Weapons Technology, U.S. Army Futures Command	11:00 am
	<b>Wrap Up</b> <b>Brian Berger</b> NDIA Small Arms Committee Chair			<b>Wrap up and Vision Forward</b> <b>Alan Kull</b> UEA Committee Chair	11:45 am
12 pm	<b>CONFERENCE ADJOURNS</b>				

## TECHNOLOGY DEMONSTRATION

12:00 – 12:20 pm	<b>BOX LUNCH PICKUP</b> EXHIBIT HALL A LOBBY
12:30 pm	<b>BUSES HARD DEPART FOR TECHNOLOGY DEMONSTRATION</b>
1:15 – 1:45 pm	<b>ARRIVE AT DEMO SITE, SAFETY BRIEFING</b>
1:45 – 2:15 pm	<b>DEMONSTRATING COMPANIES BRIEF TECHNOLOGY INITIATIVES AND FEATURES</b>
2:15 – 2:45 pm	<b>TECHNOLOGY DEMONSTRATIONS</b>
2:45 – 3:50 pm	<b>ATTENDEE PARTICIPATION</b>
4:00 pm	<b>BUSES DEPART</b>

## TECHNOLOGY DEMONSTRATION

### **Ammo & Bullet Mfg. Inc.**

New 9mm Frangible Armor Piercing Ammunition

### **AMTEC Corporation**

40mm Low Velocity (LV) cartridges

### **B.M.L. Tool & Mfg. Corp.**

AMAG Multi-Caliber Rifle

### **Barrett Firearms**

7.62mm version of the SOCOM Advanced Sniper Rifle (ASR)

### **Extreme Defense, LLC**

M4 Carbine / MK 4R Pistol

### **FN America**

MK 20 6.5 Creedmoor, MK 48 6.5 Creedmoor & MK 48 7.62

### **GLOCK, Inc.**

G19X / G45 / G17 MOS / G19 MOS / G43X / G48 Pistols

### **Heckler & Koch**

M110A1 Compact Semi-Automatic Sniper System / HK G28 Designated Marksmanship Rifle

### **HIPERFIRE**

Full Auto Cyclic Rate Reducer (F.A.C.R.R.)

### **Knight's Armament Company**

SR25 in 6.5 Creedmore & 7.62mm, SR16

### **Northrop Grumman**

5.56mm and 7.62mm ammunition

### **Olin Winchester, LLC**

New 9mm M1152 and M1153 ammunition designed for use with M17/M18 Pistols

### **Secubit**

Round Counters for Rifles, Carbines and Pistols

### **Sig Sauer**

New U.S. Army M17 and M18 Pistols

### **ST Engineering**

Ultimax 100 MG / SAR 21 Std and MMS

### **Project Manager Soldier Weapons**

40mm M320 Grenade Launcher, M26 12 gauge under-barrel Modular Accessory Shotgun (MASS) and the M110 7.62mm Semi-Automatic Sniper Systems (SASS)

### **Vista Outdoor**

9mm and 12 gauge ammunition