

JOINT ARMAMENTS CONFERENCE, EXHIBITION & FIRING DEMONSTRATION

“21st Century Weapon Systems - Providing the Right Response”



WASHINGTON STATE CONVENTION CENTER ▶ SEATTLE, WA

MAY 14-17, 2012

EVENT #2610

WWW.NDIA.ORG/MEETINGS/2610
WWW.NDIA.ORG/EXHIBITS/2610

MONDAY MAY 14 2012

8:00 am - 3:00 pm EXHIBITOR MOVE-IN

8:00 am - 6:00 pm REGISTRATION OPEN - EAST LOBBY

	Tutorials Room 606	Tutorials Room 607	Tutorials Room 608
Session Chairs: Mr. Bob Glantz; Mr. Enrico Mutascio			
1:00 pm - 2:45 pm	13671 - The Effect of Using a System's Approach to Project Control within the U.S. Small Arms Defense Industry <i>Mr. Patrick Cantwell, George Washington University</i>	14000 - 2012 ITAR Update and Review of the Basics <i>Mr. Jason Wong, Firearms Law Group</i>	Industrial Base Panel <i>Mr. Dave Broden, Broden Resource Solutions, LLC</i>
3:00 pm - 4:45 pm	Export Controls—Major ITAR Developments and Pitfalls in the International Supply Chain <i>Mr. Larry Christensen, Miller & Chevalier Chartered</i>	14009 - Improve Your Industry Proposals by Understanding the JSSAP Competitive Proposal Evaluation Process and Tools <i>Mr. Wai Luk, U.S. Army ARDEC</i>	Legislative, Regulatory, and Defense Budget Update <i>Mr. Pete Steffes, National Defense Industrial Association</i>

5:00 pm - 6:00 pm NETWORKING RECEPTION - EXHIBIT HALL

TUESDAY MAY 15 2012

7:00 am - 5:30 pm REGISTRATION OPEN - EAST LOBBY

7:00 am - 8:00 am CONTINENTAL BREAKFAST - EAST LOBBY

8:00 am - 8:15 am WELCOME AND ADMINISTRATIVE REMARKS - BALLROOM 6A-C

- ▶ Mr. Sam Campagna, *Assistant Vice President, Operations, NDIA*
- ▶ Mr. Dave Broden, *President, Broden Resource Solutions, LLC; Armaments Division Chair*

8:15 am - 8:45 am KEYNOTE ADDRESS

- ▶ SGM Peter Gould, USA, *Combat Development Division, CDD SGM USASOC*

8:45 am - 9:15 am KEYNOTE ADDRESS

- ▶ Col Tracy Tafolla, USMC, *Director, Joint Non-Lethal Weapons Directorate*

9:15 am - 9:45 am KEYNOTE ADDRESS

- ▶ Mr. George Solhan, SES, *Deputy Chief of Naval Research, Expeditionary Warfare and Combating Terrorism; Director, Marine Corps S&T*

9:45 am - 10:15 am BREAK - EXHIBIT HALL OPENS

10:15 am - 10:45 am KEYNOTE ADDRESS - "FUTURE TRENDS IN MISSILE SYSTEM DEVELOPMENT"

- ▶ Dr. Thomas Bussing, *Vice President, Advanced Missiles and Unmanned Systems, Raytheon Missile Systems*

10:45 am - 11:15 am KEYNOTE ADDRESS

- ▶ Mr. Brett Lambert, *Deputy Assistant, Secretary of Defense for Industrial Policy*

11:15 am - 11:45 am KEYNOTE ADDRESS

- ▶ Mr. Kent Holiday, *Vice President and General Manager, ATK Small Caliber Systems, ATK Defense*

- 11:45 am - 12:05 pm** **OPEN-TIP MATCH: WHEN A HOLLOWPOINT ISN'T A HOLLOWPOINT (13781)**
▶ Mr. Hays Parks, *Former Senior Associate Deputy General Counsel (International Affairs), Office of General Counsel, Department of Defense*
- 12:05 pm - 12:15 pm** **ARMAMENTS DIVISION UPDATE**
▶ Mr. Dave Broden, *President, Broden Resource Solutions, LLC; Armaments Division Chair*
- 12:15 pm - 1:45 pm** **AWARDS LUNCHEON - BALLROOM 6E**
▶ CHINN AWARD presented to Mr. Dan Haywood, *Director, Ground Weapons, USMC*
Presented by Mr. Sal Fanelli, USMC
▶ HATHCOCK AWARD presented to MSgt Craig LaMudge, *USAF (Ret), U.S. Army ARDEC*
Presented by Mr. Joel Goldman, U.S. Army ARDEC
▶ AMBROSE AWARD presented to Winchester Ammunition
Presented by Mr. Steve Faintich, St. Marks Powder
▶ PROFESSIONAL SERVICE AWARD presented to Mr. Charlie Cutshaw, *Independent Small Arms Editor & Technical Consultant*
Presented by Mr. Jim Schatz, LVT, Inc.
▶ TRIFILETTI AWARD presented to Mr. Sam Matthews, *Principle Senior Engineer, Maverick Missile, MSB Analytics & SEI Engineering - Joint Venture*
Presented by Mr. Ed DePasqual, Nammo Talley, Inc.
▶ MILITARY OPERATIONS AWARD presented to LTC Kelly Laughlin, *USA, APDM, Guided Precision Munitions and Mortar Systems, PM CAS-IF*
Presented by Mr. Ed DePasqual, Nammo Talley, Inc.
- 1:45 pm - 3:25 pm** **CONCURRENT SESSIONS (PAGE 4)**
- 3:25 pm - 3:50 pm** **BREAK - EXHIBIT HALL**
- 3:50 pm - 5:30 pm** **CONCURRENT SESSIONS (PAGE 5)**
- 5:30 pm - 7:00 pm** **NETWORKING RECEPTION - EXHIBIT HALL**

WEDNESDAY MAY 16 2012

- 7:00 am - 5:20 pm** **REGISTRATION OPEN - EAST LOBBY**
- 7:00 am - 8:00 am** **CONTINENTAL BREAKFAST - EAST LOBBY**
- 8:00 am - 9:40 am** **CONCURRENT SESSIONS (PAGE 6)**
- 9:40 am - 10:10 am** **BREAK - EXHIBIT HALL OPENS**
- 10:10 am - 11:50 am** **CONCURRENT SESSIONS (PAGE 7)**
- 11:50 am - 1:30 pm** **LUNCHEON SPEAKER - BALLROOM 6E**
“Brigadier General Adelbert Rinardo Buffington (1837 – 1922) - His Life and Times”
▶ *Dr. Stephen Small, Joint Services Small Arms Program*
- 1:30 pm - 3:10 pm** **CONCURRENT SESSIONS (PAGE 8)**
- 3:10 pm - 3:40 pm** **BREAK - EXHIBIT HALL**
- 3:40 pm - 5:20 pm** **CONCURRENT SESSIONS (PAGE 9)**

THURSDAY MAY 17 2012

- 7:00 am - 11:20 am** **REGISTRATION OPEN - EAST LOBBY**
- 7:00 am - 8:00 am** **CONTINENTAL BREAKFAST - EAST LOBBY**
- 8:00 am - 9:40 am** **CONCURRENT SESSIONS (PAGE 10)**
- 9:40 am - 10:00 am** **BREAK - EAST LOBBY**
- 10:00 am - 11:20 am** **CONCURRENT SESSIONS (PAGE 11)**
- 11:20 am - 11:45 am** **FIRING DEMONSTRATION SAFETY BRIEF - BALLROOM 6C (Mandatory for all attendees participating)**
- 12:00 pm - 12:15 pm** **BOARD BUSES FOR FIRING DEMONSTRATION**
- 1:00 pm - 4:30 pm** **FIRING DEMONSTRATION (Identification badges must be worn at all times)**

	Small Arms Ballroom 6A-B	Guns & Missiles Ballroom 6C	Guns & Missiles Rooms 606-607	Guns & Missiles Rooms 608-609	Unconventional & Emerging Armaments Rooms 611-614
	Session Chairs: COL Scott Armstrong, USA; Mr. William Sanville	DIRECT FIRES Session Chairs: Mr. John Altrichter; Ms. Lisa Brown	TACTICAL ROCKETS & MISSILES (Continued) Session Chairs: Mr. John Bednarz; Mr. Ed DePasqual	FIRE CONTROL Session Chairs: Mr. Steve French; Mr. Joe McPherson	DIRECTED ENERGY WEAPONS Session Chairs: Mr. Bryan Bockmon; Mr. David Panhorst
3:50 pm - 4:10 pm	PM Soldier Weapons Session	13975 - Automatic Cannon Ammunition 20-57mm: Calibres, Applications and Projectile Developments <i>Mr. Tony Williams</i>	13985 - The AGM-114K2A Missile Enhanced Lethality Design and Test <i>Mr. Eric Gogley, Naval Air Warfare Center</i>	13934 - Adaptable and Extensible Networked Fire Control System <i>Mr. Gregory Smith, BAE Systems</i>	An Overview of Development and Applications of Navy and Joint Direct Energy Weapons <i>Dr. Frank Peterkin, Directed Energy Warfare Office (DEWO)</i>
4:10 pm - 4:30 pm		14105 - Overview of the MP HE-T/DM11 120mm Tank Cartridge <i>Mr. Andreas Ewert, Rheinmetall Waffe Munition GmbH</i>	14014 - Design and Testing Update on Griffin® Air Launched, Flexible Missile <i>Mr. Everett Tackett, Raytheon Missile Systems</i>	13984 - Leveraging the Video Game Industry: User Telemetry for Armaments Fire Control <i>Mr. David Musgrave, U.S. Army, ARDEC</i>	
4:30 pm - 4:50 pm		13990 - LW30 High Explosive Incendiary – Traced (HEI-T) Ammunition Development <i>Mr. Drew Gordon, ATK</i>	U.S. Army XM808 21mm Bunker Defeat Munition (BDM) Subcaliber Training System <i>Mr. Nick Adamo, Nammo Talley, Inc.</i>	14024 - An Historical Perspective of Fire Control, from Cannon Balls to Guided Munitions <i>Mr. Ralph Tillinghast, U.S. Army ARDEC</i>	
4:50 pm - 5:10 pm	PM MAS Session	14031 - 30mmx113 M950 TP (Percussion Primed) Cartridge Qualification & Development of a Percussion M230 Chain Gun <i>Mr. Jim McConkie, NSWC Dahlgren</i>	14123 - Navy Turret Facility <i>Mr. Eric Lambert, Naval Surface Warfare Center</i>	14063 - Use of Magnetic North Finding Technology in Magnetically Unstable Environments in Fire Control Applications <i>Mr. Michael Wright, U.S. Army ARDEC</i>	
5:10 pm - 5:30 pm		14032 - Integration of a 40mm Grenade Proximity Fuze into a LW30 M789 (HEDP) <i>Mr. Chris Sande, ATK</i>	14145 - Lightweight, High Performance Materials for 21 ST Century Combat Systems <i>Mr. Mark Straszheim, Alcoa-Howmet</i>	14079 - Fire Control Systems for Precision Guided Munitions <i>Ms. Patricia Alameda, U.S. Army ARDEC</i>	14143 - Development of Electrically Controlled Energetic Materials for a Variety of Systems <i>Mr. David Thompson, U.S. Army ARDEC</i>

	Small Arms Room 6A	Small Arms Room 6B	Guns & Missiles Rooms 606-607	Guns & Missiles Rooms 608-609	Unconventional & Emerging Armaments Rooms 611-614
	JOINT SERVICES SMALL ARMS PROGRAM (Continued) Session Chair: Mr. Joel Goldman	AMMUNITION Session Chair: Mr. Bruce Webb	PRECISION WEAPONS Session Chairs: Mr. Joe Buzzett; Mr. Steve Kelley	EMERGING TECHNOLOGIES Session Chairs: Mr. David Panhorst; Mr. Mark Serben	ENABLING TECHNOLOGIES - DISMOUNTED SOLDIER Session Chairs: Mr. Oliver Buccicone; Dr. Barton Halpern
10:10 am - 10:30 am	14008 - Small Arms Grenade Munitions (SAGM) <i>Mr. Chris Gandy, U.S. Army ARDEC</i>	13614 - Caseless Ammunition Small Arms—The Good, the Bad and the Ugly <i>Mr. Jim Schatz, LVT, Inc.</i>	13665 - Characterizing Precision with Radial Miss Distance <i>Mr. Jon Peoble, Raytheon Company</i>	13677 - Missile Captive Carry Monitoring <i>Mr. Brian Hatchell, Pacific Northwest National Laboratory</i>	13997 - Optical Wireless Sensor-to-Warfighter Video Link <i>Dr. Joshua Borneman, NSWC Crane</i>
10:30 am - 10:50 am	13912 - Small Arms Weapons & Fire Control <i>Dr. Eric Beckel, U.S. Army ARDEC</i>	13660 - Lightweight Small Caliber Ammunition Status Update <i>Mr. Mark Leng, U.S. Army ARDEC</i>	13681 - Precision Guidance Kit Update <i>Mr. Jay Annis, ATK</i>	14011 - Advanced Aluminum Alloys Enabling Performance Improvements <i>Mr. Travis Schmidt, Alcoa Forgings & Extrusions</i>	13908 - Multifrequency Doppler Signatures of Human Activities <i>Dr. Ram Narayanan, Pennsylvania State University</i>
10:50 am - 11:10 am	13642 - National Small Arms Center/National Small Arms Technology Consortium <i>Mr. Frank Puzycski, U.S. Army ARDEC</i>	13965 - .30 Caliber Blank Function and Safety Testing <i>Mr. John Conway, U.S. Army ARDEC</i>	13961 - Precision Universal Mortar Attack (PUMA) <i>Mr. Sanford Steelman, NSWC Dahlgren</i>	14033 - Qualifying Synthetically Manufactured Alternatives to Natural Materials Using the Calcium Silicide (CaSi ₂) Project as an Example <i>Mr. Chris Sande, ATK</i>	13652 - Comprehensive 360° Tactical Awareness for the Crew Served Weapon Leader <i>Mr. Tim Eagleson, Kollmorgen</i>
	WEAPONS Session Chair: Mr. Sal Fanelli	AMMUNITION (Continued) Session Chair: Mr. Bruce Webb	PRECISION WEAPONS (Continued) Session Chairs: Mr. Joe Buzzett; Mr. Steve Kelley	EMERGING TECHNOLOGIES (Continued) Session Chairs: Mr. David Panhorst; Mr. Mark Serben	ENABLING TECHNOLOGIES - DISMOUNTED SOLDIER (Continued) Session Chairs: Mr. Oliver Buccicone; Dr. Barton Halpern
11:10 am - 11:30 am	13590 - The 7.62x35mm Low Visibility Carbine <i>Mr. Robert Silvers, Advanced Armament</i>	13981 - Qualification of .50 Caliber Reduced Range Cartridges by the U.S. Navy <i>Mr. Dennis Stanton, NSWC Crane</i>	14078 - Cost-Effective Precision Guided Navigation Packages for Artillery, Mortar, and UAVs <i>Mr. Walter Trach, Rockwell Collins</i>	14027 - Advanced Lethality and Accuracy System for Medium Caliber (ALAS-MC) <i>Mr. Jeffery Hart, U.S. Army ARDEC</i>	14028 - Robotic Armed Maneuver Platform (RAMP) <i>Mr. Alex Olaverri, U.S. Army ARDEC</i>
11:30 am - 11:50 am	13659 - XM806 Lightweight .50 Caliber Weapon Update <i>Mr. Jim St. Germain, General Dynamics</i>	13983 - Advancements in Light Weight .50 Caliber Ammunition <i>Mr. Jarod Stoll, NSWC Crane</i>		14075 - Scalable Airburst Fuze Technology <i>Mr. Paul Reynolds, General Dynamics</i>	14090 - Advancements in Combat Robotic Vehicles: From Taliban Re-Supply Vehicle to Terminator <i>Mr. Howard Kent, Armor Development Group, LLC</i>

WEDNESDAY MAY 16 2012 - CONCURRENT SESSIONS

	Small Arms Room 6A	Small Arms Room 6B	Guns & Missiles Rooms 606-607	Guns & Missiles Rooms 608-609	Unconventional & Emerging Armaments Rooms 611-614
	WEAPONS (Continued) Session Chair: Mr. Sal Fanelli	AMMUNITION (Continued) Session Chair: Mr. Jarod Stoll	MODELING & SIMULATION Session Chairs: Mr. Patrick Gray; Mr. Scott Martin	EMERGING TECHNOLOGIES (Continued) Session Chairs: Mr. David Panhorst; Mr. Mark Serben	PAYLOADS Session Chairs: Mr. Dan Hartman
1:30 pm - 1:50 pm	13662 - A New Machine Gun—The Right Weapon Especially in Today's Environment <i>Mr. David Steimke, General Dynamics</i>	14048 - An Engineering Approach to Precision Ammunition <i>Mr. Justin Pierce, ATK/Federal</i>	13664 - Supporting a Blended Training Environment <i>Mr. Jon Peoble, Raytheon Company</i>	14018 - Extended Area Protection and Survivability Integrated Demonstration (EAPS ID) Army Technology Objective (ATO) Program <i>Mr. Manfredi Luciano, U.S. Army ARDEC</i>	13991 - Lethality Grand Challenges—ARL Perspective <i>Mr. Michael Zoltoski, U.S. Army Research Laboratory</i>
1:50 pm - 2:10 pm	13969 - The M14 EBR—A Continuing Evolution <i>Mr. David Armstrong, NSWC Crane</i>	14084 - Sensitized Explosive and Pyrotechnic System Suitable as a Non-Toxic Replacement for Percussion Primers Utilized in Training and Duty Ammunition Systems <i>Mr. Joel Standstrom, Federal Cartridge</i>	14029 - Modeling, Simulation, and Analysis of a Power Train Cam for the Bushmaster III 35mm Cannon <i>Mr. Alan Baker, ATK</i>	14076 - 120mm Rarefaction Wave Gun For Large Area Defense <i>Dr. Eric Kathe, U.S. Army ARDEC</i>	14094 - Combined Lethal and Non-Lethal Munition Design Study <i>Mr. Paul Shipley, AAI Corporation</i>
2:10 pm - 2:30 pm	13982 - Overcoming Obsolescence and Upgrading Integrated Small Arms <i>Mr. Joseph Burkart, NSWC Crane</i>	14043 - The MK 315 MOD 0 40mm x 53 HEDP—Transition to U.S. Production <i>Mr. Helge Stadheim, Nammo Raufoss AS</i>	13630 - Modeling and Simulation for Guided Mortar Projectiles <i>Dr. Michael Wilson, Arrow Tech Associates</i>	14125 - Vertical Ascent Situational Awareness Drone <i>Mr. Kent Howard, Armor Development Group, LLC</i>	14041 - Demonstrations of Scalable Munitions Technology for Adaptive Response <i>Mr. Henry Kerwien, U.S. Army ARDEC</i>
2:30 pm - 2:50 pm	13992 - Lightening the Soldier's Load For Mounted Systems <i>Mr. James Murtaugh, U.S. Army ARDEC</i>	14069 - Enhanced Fragmentation Studies for a 40mm Grenade <i>Mr. Paul Shipley, AAI Corporation</i>	14091 - Analysis of Fatigue Life Estimate for the M119 Cradle Assembly with a Gouge Cut Defect <i>Ms. Caitlin Weaver, U.S. Army ARDEC</i>	14129 - Barrier Penetrating, Void Detection Fuzed 40mm Grenade <i>Mr. Kent Howard, Armor Development Group, LLC</i>	14049 - Reactive Material Neutralizer Technology <i>Mr. Jeremy Snyder, General Dynamics</i>
2:50 pm - 3:10 pm		14050 - Introduction of Low Observable Tracer (LOT) Technology to the Technical Community <i>Mr. Matthew Horch, U.S. Army ARDEC</i>	14026 - Model-Based Software Development for DDG 1000 Advanced Gun System <i>Mr. Dirk Jungquist, BAE Systems</i>	13980 - Cannon Cluster Munition Replacement for 155mm Artillery Systems <i>Mr. Ryan Gorman, U.S. Army ARDEC</i>	13668 - Enabling Effective Introduction of Next Generation Small Payload Capabilities <i>Mr. John Eaton, ITT Exelis UK</i>

	Small Arms Room 6A	Small Arms Room 6B	Guns & Missiles Rooms 606-607	Guns & Missiles Rooms 608-609	Unconventional & Emerging Armaments Rooms 611-614
	WEAPONS (Continued) Session Chair: Mr. Jim Schatz	AMMUNITION (Continued) Session Chair: Mr. Jarod Stoll	MODELING & SIMULATION (Continued) Session Chairs: Mr. Patrick Gray; Mr. Scott Martin	ENERGETICS & PROPELLANTS Session Chairs: Mr. Rollie Dohrn; Mr. Matt Solverson	ENABLING TECHNOLOGIES - DELIVERY Session Chair: Mr. Brian Sullivan
3:40 pm - 4:00 pm	14007 - Small Arms Muzzle Flash Measurement <i>Mr. Owen Cramer, NSWC Crane</i>	14051 - Evaluation of Propellant Signatures in Support of Low Observable Tracers <i>Ms. Christel Seitel, U.S. Army ARDEC</i>	14093 - Bore Evacuator Corrosion on the M284 Cannon Tube <i>Dr. Elaine Humiston, U.S. Army Benet Labs</i>	14056 - Variable Plasma Igniter Output for Temperature Compensation of Ammunition Performance <i>Mr. Chris van Driel, TNO</i>	13654 - Solid-State Bullet Guided Flight <i>Dr. Ron Barrett, The University of Kansas</i>
4:00 pm - 4:20 pm	14010 - Test Techniques for Next Generation Weapon Suppressor Development <i>Mr. Daniel Cler, U.S. Army ARDEC</i>	14052 - Characterization and Development of the Phosphor and Binder Utilized in the Low Observable Tracer (LOT) <i>Mr. William Battistelli, U.S. Army ARDEC</i>	14099 - Are We Measuring What We Think We Are Measuring? <i>Mr. Jim Talley, General Dynamics</i>	13634 - Hybrid Propellant for LOS-MP/AMP <i>Mr. James Drummond, St. Marks Powder, Inc.</i>	14038 - Multi Environment Supercavitating Ammunition - New Capabilities and Enhanced Small Caliber Performance from Standard Weapons <i>Mr. Richard Morgan, DSG Technology</i>
4:20 pm - 4:40 pm	14083 - Barrett XM109 Payload Rifle & 25mm Ammunition Capabilities <i>Mr. Donald Dillard, General Dynamics</i>	14064 - Development and Improvement of a 12.7mm Limited Range Training Ammunition (LRTA) <i>Mr. Gabriel Bourque, General Dynamics-OTS Canada</i>	13615 - Test Options and Analysis Techniques <i>Mr. Jeff Siewert, Arrow Tech Associates, Inc.</i>	14070 - Temperature Insensitive Propulsion System (TIPS®) for Large Caliber KE Application <i>Mr. J. Hylton, General Dynamics</i>	14068 - Active Self Venting Round (SEVER) Rarefaction Wave Based Projectile Launchers <i>Dr. Michael Macri, U.S. Army ARDEC</i>
4:40 pm - 5:00 pm	14086 - XM25—A Warfighter's Perspective <i>Mr. Mike Stucki, ATK</i>	14267 - Evolution of Green Ammunition for "New" Weapons <i>Mr. Fredrik Erninge, Nammo Vanäsverken AB</i>	14085 - Novel High-g Soft Recovery System for 155MM Precision Munitions and Components <i>Mr. Greg Hader, U.S. Army ARDEC</i>	14077 - LW30mm Alternate Propellant <i>Mr. Paul Reynolds, General Dynamics</i>	13995 - Roll Control Guided Mortar (RCGM) <i>Mr. Yousef Habash, General Dynamics</i>
5:00 pm - 5:20 pm		14092 - Incendiary Flash Recognition and Scoring Software <i>Ms. Connie Furst, U.S. Army ARDEC</i>	14130 - A Proposed Method to Standardize the Scoring of Plate Array Damage <i>Mr. Jim Talley, General Dynamics</i>	14132 - Optimization of ATK LW25mm Cannon Integrated into SAAB Trackfire Remote Weapon Station <i>Mr. Roger Odell, ATK</i>	13655 - Supersonic Hovering Aerial Vehicle (SHAV): Recoverable, Strategic Reach VTOL Weapon System at High Mach with Sub-Meter Precision <i>Dr. Ron Barrett, The University of Kansas</i>

THURSDAY MAY 17 2012 - CONCURRENT SESSIONS

	Small Arms Room 6A	Small Arms Room 6B	Guns & Missiles Rooms 606-607	Guns & Missiles Rooms 608-609	Unconventional & Emerging Armaments Rooms 611-614
	TRAINING, MODELING & SIMULATION Session Chair: Mr. Mark Minisi	INTERNATIONAL Session Chair: Mr. John Edwards	PLATFORM & WEAPON SYSTEM INTEGRATION Session Chairs: Mr. James Newell; Mr. Steve Piper	ENERGETICS/ AMMUNITION Session Chairs: Mr. Enrico Mutascio; Mr. Jim Talley	FUTURES Session Chair: Mr. Dave Broden
8:00 am - 8:20 am	13709 - Modeling and Simulation of the Manufacturing and Ballistic Performance of Low-Carbon Steel, Small-Caliber Cartridge Cases <i>Mr. Mark Lee, ATK</i>	13674 - RMG 0.50—The Rheinmetall Machine Gun: The Answer to All Combat Situations <i>Mr. Stephan Kerk, Rheinmetall</i>	14057 - Measurements/ Removal of Fouling, Jacket, and Driving Band Deposition and De-Coppering of Cannon Barrels with a New, Automated, Sealed-System Bore Cleaning Machine <i>Mr. Paavo Sorvako, Polartherm Oy</i>	14013 - Results of Air Force Investigation into 20mm Case Neck Separation Phenomenon <i>Mr. Daniel Gray, U.S. Air Force</i>	14020 - NATO Non-Lethal Capabilities Updates <i>Mr. John Edwards, U.S. Army ARDEC</i>
8:20 am - 8:40 am	13863 - M4 Weapon Shock Simulator <i>Mr. Greg Mooty, Ascendant Engineering Solutions</i>	14003 - 40mm Low Velocity Extended Range Munitions <i>Mr. Aw Cheng Hok, Singapore Technologies Kinetics</i>	14121 - 30mm Linear Linkless Ammunition Handling Technology in a Remote Weapon Station <i>Mr. Josh Hearn, Meggitt Defense Systems, Inc.</i>	14019 - Development of a 20mm Instrumented Round Used for Measurement of Accelerations Experienced by Ammunition in M61 Gun Systems <i>Mr. Boris Funtow, General Dynamics</i>	14054 - Non-Lethal Weapons Effectiveness and Standards: A Team Effort <i>Mr. Pascal Paulissen, TNO</i>
8:40 am - 9:00 am	13946 - 50 Caliber Limited Range Projectile <i>Mr. Stephen McFarlane, U.S. Army</i>	14001 - Enhancing Range and Lethality—40mm Medium Velocity Ammunition and Weapons <i>Mr. Karsten Stern, Rheinmetall Waffe Munition</i>	13974 - Integrated Flight Testing of the MC-130W Dragon Spear <i>Maj Andrew Jutte, USAF, 46th Test Wing</i>	13979 - Investigation into the 20mm PGU-27 Bullet Crimp <i>Mr. Ron Hopkins, General Dynamics</i>	13921 - 2025... Transformational Investments to Revolutionize the Battlefield <i>Dr. Barton Halpern, U.S. Army ARDEC</i>
9:00 am - 9:20 am	13966 - Metrics Generation and Soldier Weapon Evaluation And Test (SWEAT) <i>Mr. David Sapp, U.S. Army</i>	14002 - Technical Overview of the K11 Dual-Barrel Air-Burst Weapon <i>Dr. Eui-Jung Choe, Agency for Defense Development</i>	13994 - JSF Missionized Gun System Qualification Test and Integration <i>Mr. Brian Hatin, General Dynamics</i>	14037 - 25mm x 137 APEX for F-35 <i>Ms. Eva Friis, Nammo Talley</i>	14256 - Nanotechnology for Future Force Armaments <i>Mr. Chris Haines, U.S. Army ARDEC</i>
9:20 am - 9:40 am			14120 - 40mm Cased Telescoped Ammunition Handling System – Moving Ammunition in Confined Spaces <i>Mr. Kevin Ching, Meggitt Defense Systems, Inc.</i>	14081 - GD-OTS/ Nammo 30mm Ammunition Family <i>Mr. Zachary Kemp, General Dynamics</i>	13977 - Active Protection System Simulations <i>Mr. Matt Harrison, U.S. ARMY AMRDEC</i>

JOINT ARMAMENTS AWARDS

SMALL ARMS AWARDS

PROFESSIONAL SERVICE AWARD presented to *Mr. Charlie Cutshaw, Independent Small Arms Editor & Technical Consultant*

HATHCOCK AWARD

The Hathcock Award is named in honor of Gunnery Sergeant Carlos N. Hathcock, II, USMC, a career Marine who dedicated his life to the service of this country in both the military and law enforcement communities. He was honest, tactful, considerate, courageous, quietly proud and determined in all things and all places from the range to the battlefield. “The Gunny” not only distinguished himself in combat as a scout-sniper, but also as a competitive marksman and trainer. In his capacity as a trainer, he not only significantly impacted the current United States Marine Corps Scout-Sniper Program, but also influenced the sniper programs of the other military services and similar law enforcement programs nationwide.

The Hathcock Award is presented to recognize an individual who, in the opinion of the Small Arms Committee Executive Board, has made significant contributions in operational employment and tactics of small arms weapons systems which have impacted the readiness and capabilities of the U.S. military or law enforcement. A significant contribution is considered to be a superior performance of duties in an operational environment or the development of tactics or training.

Such contributions would be easily recognized as “excellence” in industry leadership and responsiveness in cases where National security priorities require attention to meet urgent needs in either peace or war time.

HATHCOCK AWARD presented to *MSgt Craig LaMudge, USAF (Ret), U.S. Army ARDEC*

CHINN AWARD

The Chinn Award is named in honor of LtCol George M. Chinn, USMC, a career Marine who dedicated his life to the study, development and refinement of machine gun mechanisms. LtCol Chinn is remembered for his work as a gun designer and for having compiled a five volume reference work entitled, “The Machine Gun.”

The Chinn Award is presented annually to honor a government or industry individual who, in the opinion of the Small Arms Committee Executive Board, has made significant contributions to the field of small arms and/or infantry weapons systems. A significant contribution is considered to be a creative invention, new design or innovative concept in small arms weapons, ammunition or ancillary equipment that provides an advancement in the state-of-the art or capability enhancement that clearly benefits the warfighting or general military capability of the U.S. The Chinn Award may also be conferred as recognition to an individual who has performed sustained superior service in a career field of science, engineering, test and evaluation, manufacturing program management, academic study and research, publishing or maintenance relating to military small arms or infantry weapons.

CHINN AWARD presented to *Mr. Dan Haywood, Director, Ground Weapons, USMC*

AMBROSE INDUSTRY AWARD

The Ambrose Industry Award is named in honor of former Under Secretary of the Army, James R. Ambrose because of his recognition of the value and contribution of industry in meeting the needs of our National Defense. This was made unmistakably clear during his tenure from 1981-1988 as Under Secretary of the Army during the Presidency of Ronald Reagan. He was a major force in the post Vietnam modernization of all small arms weaponry where new and improved versions of the M16, M249, and M9 were purchased in large quantities as a result of industry competitions.

The Ambrose Award is established and presented periodically to recognize a Defense Industry which, in the opinion of the Small Arms Committee Executive Board, has made outstanding contributions to the field of small arms systems. An outstanding contribution is characterized by exemplary commitment and contribution to the Armed Forces by delivering superior materiel that meets required operational capabilities and supports a high level of force readiness in the conduct of warfighting activities or homeland defense. Such contributions may be shown through a record of continual demonstration of emerging technologies, development of products and systems, establishment of enhanced production capabilities and integration of innovative weapons systems and supporting products and services required by the DoD and Allied countries.

AMBROSE AWARD presented to *Winchester Ammunition*

GUN & MISSILE AWARDS

THE TRIFILETTI AWARD

The award is named in honor of Mr. Robert Trifiletti who made significant contributions to the advancement of technology, and by whose leadership many other accomplishments benefiting the warfighter came to fruition. The award is open to anyone in the gun and ammunition or rocket and missile community.

The Trifiletti Award is presented by the Gun & Missile Executive Committee to recognize and honor an individual who has made a significant contribution benefiting the warfighter, thus strengthening national defense. This contribution can be in the areas of the advancement of technology, systems, system integration or to someone who through his work provided unique leadership resulting in changes and progress in the community.

TRIFILETTI AWARD presented to Mr. Sam Matthews, *Principle Senior Engineer, Maverick Missile, MSB Analytics & SEI Engineering - Joint Venture*

MILITARY OPERATIONS AWARD

The Military Operations Award is presented to recognize an individual, crew or unit who in the opinion of the NDIA Gun & Missile Executive Committee has made significant contributions in operational employment, tactics or combat applications of guns and ammunition and/or rockets and missiles which have impacted the readiness, capabilities or results of U.S. military activity. A significant contribution is considered to be superior performance in an operational environment, development of tactics, training or leadership.

MILITARY OPERATIONS AWARD presented to *LTC Kelly Laughlin, USA, APDM, Guided Precision Munitions and Mortar Systems, PM CAS-IF*

JOINT ARMAMENTS LEADERSHIP

- ▶ **JOINT CONFERENCE CHAIRS:** *Mr. Chuck Buxton, Small Arms Ammunition and Testing (JXNN); Mr. Greg Hill, Meggitt Defense Systems; and Dr. Barton Halpern, U.S. Army ARDEC*
- ▶ **ARMAMENTS DIVISION CHAIR:** *Mr. Dave Broden, Broden Resource Solutions*
- ▶ **SMALL ARMS COMMITTEE CHAIR:** *Mr. Brian Berger, General Dynamics-OTS*
- ▶ **GUN & MISSILE COMMITTEE CHAIR:** *Mr. Steve French, BAE Systems*
- ▶ **UNCONVENTIONAL & EMERGING ARMAMENTS COMMITTEE CHAIR:** *Mr. Daniel Hartman, General Dynamics - OTS*
- ▶ **NDIA CONTACT:** *Mr. Sam Campagna, National Defense Industrial Association*

REGISTRATION

Registration fees include admission to the general session, breakout sessions, exhibit hall, Monday and Tuesday night networking receptions, and all breakfasts, breaks, and lunches.

ATTIRE

Conference attire is business casual for civilians and Class B uniform or uniform of the day for military. In addition, your identification badge, received upon check-in, must be worn at all times, including the firing demonstration.

PROCEEDINGS

Proceedings will be available on the web through the Defense Technical Information Center (DTIC) one to two weeks after the symposium. You will receive an email notification once the proceedings are available.

POSTER PRESENTATIONS

14025 - Explicit Finite Element Model for Determining the Interior Launch of 9 x 19mm Ammunition

Mr. Michael Cataldi, U.S. Army ARDEC

14038 - Multi Environment Supercavitating Ammunition - New Capabilities and Enhanced Small Caliber Performance from Standard Weapons

Mr. Richard Morgan, DSG Technology

14089 - A Compelling Case for Modernizing the M249/Mk249 SAW

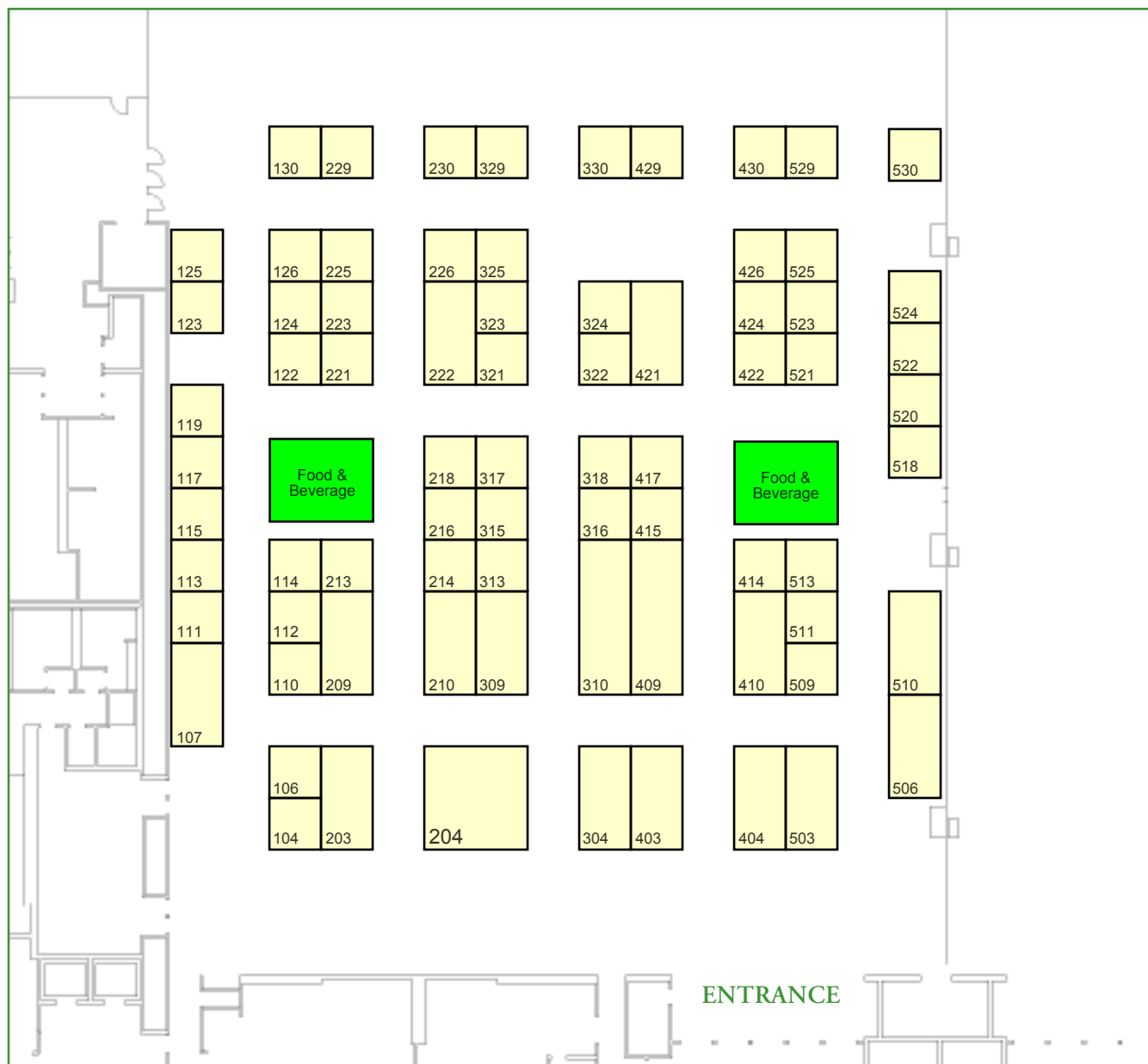
Dr. John Kokinis, U.S. Machine Gun Armory, LLC

14098 - Simulating Small Caliber Impacts Into Glass

Mr. Max Savransky, U.S. Army ARDEC

EXHIBITOR FLOOR PLAN

As of 4-26-12



EXHIBITING COMPANIES As of 4-26-12

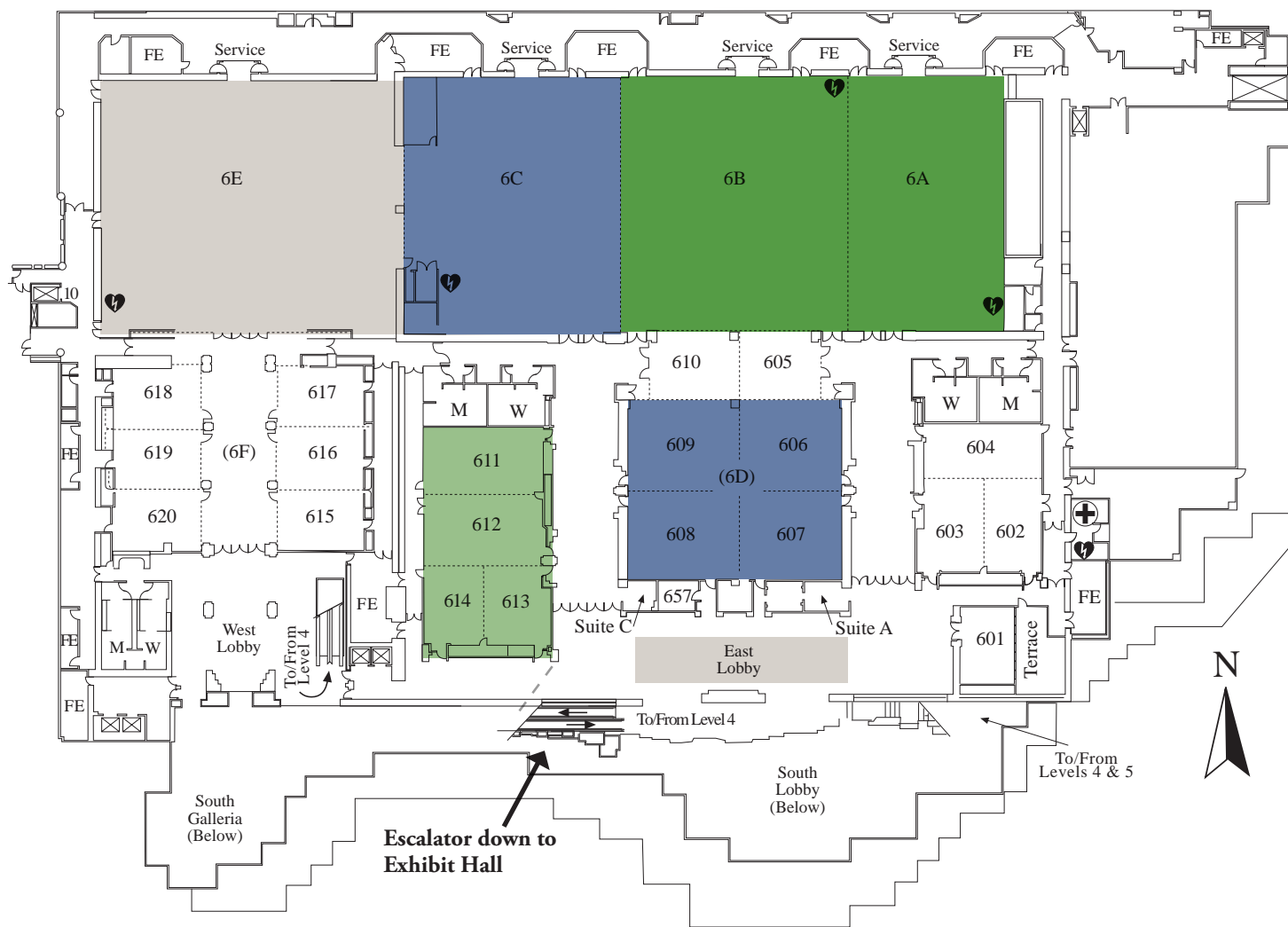
AAI Corporation	318	Leupold & Stevens, Inc.	321
Aimpoint, Inc.	426	Long Mountain Outfitters	430
Alcoa Defense	329	Magpul Industries Corp.	313
American Rheinmetall Munitions, Inc.	503	Manroy Defense Systems	125
Anniston Army Depot	126	Marine Corps Logistics Command	124
ARDEC	421	MAST Technology, Inc.	226
ARES, Inc.	424	Milkor USA, Inc.	523
Arrow Tech	520	Mission First Tactical	110
ATK	210	Nammo Talley, Inc.	513
Beretta USA Corp.	107	National Technical Systems Corp	509
ChemFree	119	National Warheads and Energetics Consortium (NWEC)	529
Colt Defense, LLC	203	NIC Industries, Inc.	315
Combined Systems, Inc.	414	OLIN-WINCHESTER	511
Crimson Trace Corporation	323	Otis Technology	521
D&Eye Inc.	330	Pelican Products	214
Defense Stabilization Industries, LLC	229	Platt Mounts - USA, Inc.	216
DoubleStar Corp.	525	PM Soldier Weapons	403
DSG Technology AS	415	Polartherm Oy	417
Elite Defense	230	RDECOM-AMRDEC	324
ENSINGER	114	Remington Arms	309
Falken Industries, LLC	429	Ringfeder Corporation	213
FNH USA, Inc.	209	Rock Island Arsenal JMTC	115
GEMTECH	117	RUAG Ammotec	317
General Dynamics Amphibious Systems	111	Ruger Firearms	518
General Dynamics Armament and Technical Products	204	Samson Manufacturing	316
General Dynamics-OTS	410	Schuler	409
GLOCK, Inc.	123	Sierra Bullets	223
Heckler & Koch	218	SIG SAUER	112
ITT Enidine, Inc.	106	Smith & Wesson	222
Joint Service Small Arms Program	310	Spectrum Plastics Group	530
Kistler Instrument Corporation	422	Trijicon	506
Knight's Armament Company	221	U.S. Munitions	522
KRATOS Defense & Security Solutions, Inc.	122	U.S. ARMY RDECOM	322
Lancer Systems	113	U.S. Machine Gun Armory	130
LaRue Tactical	524	U.S. Ordnance	304
Laser Techniques Company, LLC	325	USA Yuma Proving Ground	104
LaserMax	225	VingTech Corp.	404
		Weibel	510

LOCATION

Washington State Convention Center

800 Convention Place
Seattle, WA 98101-2350

Registration will be located in the East Lobby, with General Session taking place in ballrooms 6A-C. Lunch will be served in ballroom 6E.



Concurrent Sessions

-  Guns & Missiles
-  Unconventional & Emerging Armaments
-  Small Arms

ADDITIONAL AUTHORS

- 13627 Dr. Jeanette Brooks
Mr. William Engle
Ms. Lynn Pierson
Mr. Benjamin Cole
- 13634 Dr. Jeanette Brooks
Mr. John O'Reilly
- 13642 Mr. Karl Lewis
- 13652 Mr. Kevin Andryc
- 13653 Prof. Ron Barrett
- 13654 Prof. Ron Barrett
- 13655 Prof. Ron Barrett
- 13656 Mr. Charles Garnett
Mr. Benjamin McGlasson
Mr. Adam Jones
- 13660 Mr. Brent Edwards
Mr. Stephane Lepine
- 13663 Mr. Jim Rodrigue
Mr. Dan Tulloh
- 13664 Mr. Brian Gaume
Mr. Jim Rodrigue
- 13665 Mr. Dan Tulloh
- 13671 Dr. Shahram Sarkani
Dr. Thomas Mazzuchi
- 13672 Dr. Philips Laou
Dr. Daniel Corriveau
Mr. Francois Lesage
Major Bruce Gilchrist
- 13673 Mr. Martin van de Voorde
- 13677 Mr. Michael Adams
Mr. Michael Schaeffer
Mr. Kurt Silvers
Mr. James Skorpik
- 13919 Dr. Barton Halpern
- 13921 Dr. Barton Halpern
- 13934 Mr. Christopher Johnson
- 13939 Mr. Davis Libersat
CAPT Thomas Gajewski
Mr. Charles Clark III
- 13946 Mr. Brian Kim
- 13961 Mr. Benjamin Topper
- 13966 Mr. Oliver Buccicone
Mr. Ray Pawlicki
- 13976 Mr. Martin Hopkins
Mr. Charles Tolbert
- 13980 Ms. Karen Amabile
Ms. Allison Marston
Mr. David Gudjohnsen
- 13983 Mr. Jarod Stoll
Ms. Kathryn Hunt
- 13985 Mr. Michael Jostes
- 13990 Mr. Vince Martinez
- 13991 Dr. James Newill
- 13992 Mr. Anthony Piccolo
- 13995 Mr. Joe Morris
- 13995 Mr. Chris Haney
Mr. Eric Thome
Mr. Doug Smith
- 13997 Ms. Gail Nicholson
Dr. Courtney Boykin
- 13999 Dr. Sergey Shkuratov
Dr. Larry Altgilbers
- 14001 Mr. Karsten Stern
Mr. Brian Sullivan
- 14002 Dr. In-Woo Kim
Dr. Dong-Hyun Kim
Dr. Euj-Jung Choe
Mr. Hyun-Jun Kim
- 14006 LCDR Nicholas Green
Mr. Stephen Summerlin
- 14011 Mr. Les Yocum
Mr. Jeff Caratelli
- 14014 Mr. Doug Hayner
- 14015 Mr. Jim Rodrigue
Mr. Jon Peoble
- 14016 Mr. Doug Hayner
- 14017 Mr. Jeb Brough
Mr. Michael Harris
Mr. Wesley Shaw
Mr. Joseph Silber
- 14019 Mr. Chris Townsend
- 14022 Mr. Dennis Massey
- 14024 Mr. Victor Galgano
- 14028 Mr. Robert Testa
Mr. Sam Koo
- 14031 Mr. Jeremy Vandenbark
- 14032 Mr. Brent Beauseigneur
Mr. Daniel Kelly
- 14033 Mr. Michael O'Grady
- 14034 Mr. Alan Panek
- 14035 Mr. Rick Williams
- 14037 Vegard Sande
- 14039 Mr. Randy Clifton
Mr. Josh Edel
Mr. Matt Wolff
- 14040 Mr. Douglas Wong
- 14041 Mr. Jeffrey Kraft
Mr. Eric Jankowski
Mr. Nicholas Berg
Mr. Thomas Gill
- 14042 Mr. Joseph Martinelli
- 14043 Mr. Brian Sullivan
- 14044 Mr. James Rutkowski
Mr. Charles Hayden
- 14046 Mr. William Vogt
Mr. Tom Long
Mr. Joseph Donini
- 14047 Mr. Brian Sullivan
- 14048 Mr. Bryan Peterson
- 14050 Dr. Garry Glaspell
Mr. Daniel De Bonis
- 14051 Mr. Daniel De Bonis
Dr. Garry Glaspell
- 14052 Dr. Garry Glaspell
- 14055 Mr. Pascal Paulissen
- 14056 Mr. André Schilt
Mr. Marcel Simor
- 14057 Mr. Jyrki Salomaki
Mr. Ross Duckworth
- 14063 Mr. Ralph Tillinghast
- 14064 Mr. Stéphane Lépine
- 14068 Dr. Brian Van De Wal
Mr. John Delaney
Mr. Jack Norray
- 14069 Mr. Rick Mills
- 14070 Dr. Klause-Achim
Kratzsch
- 14072 Mr. Michael Cataldi
Dr. Max Savransky
- 14079 Mr. James Hartranft
- 14081 Mr. Vegard Sande
- 14083 Mr. Kyle Lynch
- 14084 Mr. Joel Sandstrom
- 14085 Mr. Nigel Gray
Mr. Robert Marchak
- 14086 MAJ Christopher Conley
SGT Josh Brown
- 14090 Dr. John Kokinis
SSgt. David Lyon
- 14091 Ms. Caitlin Weaver
Mr. Robert Terhune
Mr. Brian Peterson
Mr. Pasquale Carlucci
- 14092 Mr. Thomas Gmyrek
- 14093 Ms. Jeanne Brooks
- 14094 Mr. Brandon Recchia
Mr. Dennis Trump
Mr. Scott Hamilton
- 14095 Mr. Jobin John
- 14096 Mr. Anthony Sherwood
- 14105 Mr. Fredy Sandau
Mr. Wolfgang-Peter Berg
- 14125 Mr. David Broden
- 14129 Mr. David Broden
Mr. Michael Change
- 14132 Mr. Mathew Wilmot
- 14143 Dr. Eugene Rozumov
Mr. David Thompson
Dr. Kimberly Chung
Mrs. Dana Kaminsky
- 14145 Mr. Chris Jensen
- 14267 Mr. Bruce Webb

THANK YOU TO OUR SPONSOR!



ATK is an aerospace, defense, and commercial products company with operations in 22 states, Puerto Rico, and internationally, with revenues of approximately \$4.8 billion.

ATK has signature expertise in delivering timely, advanced and affordable capabilities with reliable performance – in many cases economically upgrading current inventories with force multiplier effect.

ATK continues to expand its business as a leading provider of enhanced lethality and survivability solutions with core competencies in facility and supply chain management; small-and medium-caliber ammunition design and manufacture; medium-caliber gun system design and manufacture; and precision weapons technology.

ATK is an industry leader in missile warning systems, advanced fuzing, lethality enhanced warheads and tactical missile propulsion. The company also specializes in anti-radiation strike weapons and weaponized special mission aircraft conversion.

ATK is the world's top producer of solid rocket propulsion systems and a leading supplier of military and commercial composite aircraft structures. ATK's BLACKHAW! and Eagle Industries brands of tactical equipment and accessories include tactical assault vests, load-bearing equipment, weapon transporting gear, holsters, personal gear carriers, and other high quality accessories.

Additional ATK news and information can be found at www.atk.com.



Save the Date!!

Joint Armaments Conference, Exhibition & Firing Demonstration
Indianapolis, Indiana, May 20-23, 2013
www.ndia.org/meetings/3610