NDIA
AT THE HEART OF THE MISSION

65TH ANNUAL FUZE CONFERENCE

Keeping Pace with Challenging Fuze Applications

May 10 – 12, 2022 | Renton, WA | NDIA.org/Fuze22

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NDIA

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

TUESDAY, MAY 10

Registration
Grand Pre-Function
2:00 – 6:00 pm

Networking Opening Reception
Grand Pre-Function & Grand Promenade
5:00 – 6:30 pm

WEDNESDAY, MAY 11

Networking Breakfast
Grand Pre-Function
7:00 am – 5:00 pm

General Session
Grand Ballroom 7-9
8:00 – 11:20 am

Keynote Speaker
Grand Ballroom 7-9
8:15 – 9:00 am

Networking Lunch
Grand Ballroom 3-6
11:20 am – 1:00 pm

Abstract Presentations
1:00 – 5:00 pm

Networking Grand Reception
Mercer Terrace
5:00 – 6:30 pm

THURSDAY, MAY 12

Registration
Grand Pre-Function
7:00 am – 4:00 pm

Abstract Presentations
8:00 – 12:00 pm

Networking Lunch
Grand Ballroom 3-6
12:00 – 1:00 pm

Abstract Presentations
1:00 – 5:00 pm

JOIN THE CONVERSATION

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WELCOME TO NDIA'S 65TH ANNUAL FUZE CONFERENCE

On behalf of NDIA and the Fuze Conference Steering Committee, I would like to welcome you to NDIA's 65th Annual Fuze Conference. This year's conference theme is "Keeping Pace with Challenging Fuze Applications." The conference brings together the passionate work of top fuzing professionals from government, industry, and academia, and provides an opportunity for the exchange of the latest research and development on fuzing – all with the common goal of improving safety, reliability, and the capability to sustain our warfighters.

We have an exciting keynote scheduled to address the Fuze community. Lastly, the Fuze Steering Committee would like to thank all of those who have submitted papers, contributors to those papers, companies participating in the display tables, and the sponsors who make this conference possible. A special thanks is due to our sponsors L3 Harris, Northrup Grumman Corporation, and Excelitas Technologies. We look forward a great conference through the in-person networking and knowledge exchange amongst the Fuze community.

Nassir Alaboud
Chair, Fuze Committee, Munitions Technology Division, NDIA
Lockheed Martin Fellow, Systems Safety Engineering, Lockheed Martin

GET INVOLVED
Learn more about NDIA's Divisions and how to join one at **NDIA.org/Divisions**

LEADERSHIP

Nassir Alaboud
Division Chair

Perry Salyers
Vice Chair

Byron Lee
Secretary

MUNITIONS TECHNOLOGY

WHO WE ARE

The Munitions Technology Division works to maintain the open exchange of technical information among government and industry programs and technical managers. In addition, the Division identifies changes and trends in policy, guidance, and organizational functions that affect the development, production, maintenance, and demilitarization of munitions.

The Fuze Section aims to promote an open exchange of technical information among government and industry personnel, and to identify and address changes in standards, guidance, policy, and organizational functions that impact the development, production, and performance of fuzes.

EVENT INFORMATION

LOCATION

Hyatt Regency Lake Washington At Seattle's Southport
1053 Lake Washington Blvd N
Renton, WA 98056

SURVEY AND PARTICIPANT LIST

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

EVENT CONTACT

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PLANNING COMMITTEE

Nassir Alaboud
Mike Deeds
Mark Etheridge
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David Lawson
Byron Lee
Jim Lemister
Eric Roach
Jeff Rybak
Perry Salyers
James Sharp
Roy Streetz
Ciarra Villa

SPEAKER GIFTS

In lieu of speaker gifts, a donation is being made to the Fisher House Foundation.

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NDIA is committed to providing a professional environment free from physical, psychological and verbal harassment. NDIA will not tolerate harassment of any kind, including but not limited to harassment based on ethnicity, religion, disability, physical appearance, gender, or sexual orientation. This policy applies to all participants and attendees at NDIA conferences, meetings and events. Harassment includes offensive gestures and verbal comments, deliberate intimidation, stalking, following, inappropriate photography and recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome attention. Participants requested to cease harassing behavior are expected to comply immediately, and failure will serve as grounds for revoking access to the NDIA event.

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NDIA's Event Code of Conduct applies to all National Defense Industrial Association (NDIA), National Training & Simulation Association (NTSA), and Women In Defense (WID) meeting-related events, whether in person at public or private facilities, online, or during virtual events. NDIA, NTSA, and WID are committed to providing a productive and welcoming environment for all participants. All participants are expected to abide by this code as well as NDIA's ethical principles and practices. Visit NDIA.org/CodeOfConduct to review the full policy.

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The NDIA has a policy of strict compliance with federal and state antitrust laws. The antitrust laws prohibit competitors from engaging in actions that could result in an unreasonable restraint of trade. Consequently, NDIA members must avoid discussing certain topics when they are together at formal association membership, board, committee, and other meetings and in informal contacts with other industry members: prices, fees, rates, profit margins, or other terms or conditions of sale (including allowances, credit terms, and warranties); allocation of markets or customers or division of territories; or refusals to deal with or boycotts of suppliers, customers or other third parties, or topics that may lead participants not to deal with a particular supplier, customer or third party.

AGENDA

TUESDAY, MAY 10

2:00 – 6:00 pm

REGISTRATION
GRAND PRE-FUNCTION

5:00 – 6:00 pm

NETWORKING OPENING RECEPTION
GRAND PRE-FUNCTION & GRAND PROMENADE

Sponsored by NORTHROP GRUMMAN

WEDNESDAY, MAY 11

7:00 am – 5:00 pm

REGISTRATION
GRAND PRE-FUNCTION

7:00 – 8:00 am

NETWORKING CONTINENTAL BREAKFAST
GRAND PRE-FUNCTION

8:00 – 8:05 am

INTRODUCTION & ADMIN REMARKS

GRAND BALLROOM 7-9

Nassir Alaboud
Lockheed Martin Fellow, Systems Safety Engineering, Lockheed Martin, Missile & Fire Control

8:05 – 8:15 am

NDIA OPENING REMARKS

GRAND BALLROOM 7-9

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

8:15 – 9:00 am

KEYNOTE SPEAKER

GRAND BALLROOM 7-9

Michael Holthe
Director, Platform and Weapons Technologies, Office of the Director for Defense Research and Engineering (Research and Technology), Under Secretary of Defense for Research and Engineering

9:00 – 9:20 am

ARMY S&T STRATEGY

GRAND BALLROOM 7-9

Daniel Pitts
Electronics Engineer, Fuzing & Ignition Systems, U.S. Army DECVOM – Aviation & Missile Center

9:20 – 9:40 am

NAVY S&T STRATEGY

GRAND BALLROOM 7-9

Michael Deeds, Ph.D.
Fuze Branch Manager, E33, Component Technology Division, E, NSWC Indian Head Division

9:40 – 10:00 am

NETWORKING BREAK

GRAND PRE-FUNCTION

Sponsored by PACSCI EMC

10:00 – 10:20 am

AIR FORCE S&T STRATEGY

GRAND BALLROOM 7-9

George Jolly
Technical Advisor, Fuze and Warhead Branch, Ordinance Division, Munitions Directorate, Air Force Research Laboratory

10:20 – 10:40 am

ARMY S&T STRATEGY

GRAND BALLROOM 7-9

Laura Ostar-Exel
Mechanical Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

10:40 – 11:05 am

JOINT ENHANCED MUNITIONS TECHNOLOGY PROGRAM (JEMTP)

GRAND BALLROOM 7-9

Lawrence Fan
Program Manager, Joint Enhanced Munitions Technology Program, OUSD (R&E)

11:05 – 11:20 am

HARRY DIAMOND FUZING EXCELLENCE AWARD PRESENTATION

GRAND BALLROOM 7 – 9

James Lucas
Northrop Grumman Fellow, Northrop Grumman Corporation

Nassir Alaboud
Lockheed Martin Fellow, Systems Safety Engineering, LSE Lockheed Martin, Missile & Fire Control

Bryon Lee
Programs Director, Defense Systems Sector, Northrop Grumman Corporation

11:20 am – 1:00 pm

NETWORKING LUNCH

GRAND BALLROOM 3-6

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1:00 – 3:00 pm

Session 1A – Distro A – Open Sessions

Grand Ballroom 1– 2
Chair: Thomas Harward
Assistant Chair: Nassir Alaboud

24211 – Safety Design Guidelines (Criteria) for Remotely Controlled Fuzing Systems Used in Munitions
Timothy Mohan, General Engineer, Army Fuze Management Office, U.S. Army DEVCOM – Armaments Center

24204 – Software Safety and Security Certifications Using Multicore Environment – Mitigating Risks Using Bandwidth Allocation and Monitoring
John Warther, Vice President of Government Programs, Green Hill Software

24207 – New Fuze Requirements to Support New Missile and Munition Capabilities
Christian Euba, Technical Expert – Fuze & Warhead, TDW (MBDA)

AF 1 – On-board Recorder Testing for Embedded Fuzing
Dustin Landers, Staff Electrical Engineer 1, ARA

AF 3 – Instrumentation Methods for Distributed Embedded Fuzes Environment in Hard Target Attack
Dr. Alain Beliveau, Principal Subject Matter Expert 2, Applied Research Associates, Inc.

Session 1B – Distro D – Closed Session

GRAND BALLROOM 7-9
Chair: Glen Kading
Assistant Chair: Perry Salyers

24219 – Next Generation Additively Manufactured Survivable 3D Conformal Fuze Radome Antenna
Dr. Clayton Neff, Research Engineer, University of Dayton Research Institute

24197 – Hard Target Detonator Pyroshock Testing and Test Results
Emmanuel Morales, Senior Mechanical Engineer, Reynolds Systems Inc.

24233 – Dialable Effects Munitions – Embedded Firesets in a High Fragmenting Warhead
Tom Lagoski, DEM Lead Engineer, Air Force Research Lab

24237 – Survivable Fuzing for High-Speed Engagements of maritime Targets
Kevin Cochran, Senior Ordnance & Microsystems Technologist, Naval Surface Warfare Center – Indian Head Division

24416 – M782E1 Multi Option Fuze for Artillery Increment II (MOFA II) Risk Reduction Architecture
Robert Zienowicz, Project Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

24412 – Robust Zig-Zag Style Electromechanical Latching Switch
Kristofer Thomas, Mechanical Engineer, Fuze Technology Branch, US Army CCDC-AC FCDD-ACM-FF

3:00 – 3:20 pm

NETWORKING BREAK

GRAND PRE-FUNCTION

Sponsored by Dynetics A Leidos Company

3:20 – 5:00 pm

Session 2A – Distro A – Open Sessions

GRAND BALLROOM 1-2

Chair: Byron Lee
Assistant Chair: Homesh Lalbahadur

24225 – Superfast Signals in Arena Tests
Dr. Nicholas Nechitailo, Engineer, Naval Surface Warfare Center – Indian Head Division

24201 – Historical Overview of Aerial Gunnery Ammunition Development 1913 - 2022
Dr. Ronald Barrett- Gonzalez, Professor of Aerospace Engineering, Director of the Adaptive Aerostructures and Aircraft Design Laboratories, The University of Kansas

24200 – Flight Safe Discarding Sabot Ammunition: Configurations, Range Data, General Performance & IP Status
Dr. Ronald Barrett- Gonzalez, Professor of Aerospace Engineering, Director of the Adaptive Aerostructures and Aircraft Design Laboratories, The University of Kansas

24204 – Fabrication of Ionic Liquid Base Electrolyte/2D Material Supercapacitors to Improve Extreme Low Temperature Ultra-Fast Charge Time
Richard Johnson, Mechanical Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

Session 2B – Distro D – Closed Sessions

GRAND BALLROOM 7-9

Chair: Roy Streetz
Assistant Chair: Perry Salyers

24210 – Test and Model Observed Needs for Natural Media Test Design Supporting Embedded Smart Fuzing
Landon Walker, M&S Engineer, Applied Research Associates

24202 – MEMSAD – Maturing the Technology, Part II
John Krafcik, Defense Systems, Northrop Grumman Corporation

24414 – Overview 6.2/6.3 FY22 Joint Enhanced Munition Technology Program (JEMTP) Portfolio within the High Precision Placement and Target Detection/Burst Point Control Focus Area
Evan Young, Senior Scientific Technical Manager: Fuzing and Power, U.S. Army DEVCOM Armaments Center

24221– Development and Simulation of High Curie Temperature PZT Material for Impact Sensing in Hypersonic Environments
Alex Chen, Mechanical Engineer, Sandia National Laboratories

24405 – Improved Fuze Safe and Arm Device for Submunition Grenades
Jintae Kim, Mechanical Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center, Mechanical Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

5:00 – 6:00 pm

NETWORKING GRAND RECEPTION

MERCER TERRACE

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THURSDAY, MAY 12

7:00 am – 4:00 pm

REGISTRATION

GRAND PRE-FUNCTION

7:00 – 8:00 am

NETWORKING CONTINENTAL BREAKFAST

GRAND PRE-FUNCTION

8:00 – 10:00 am

Session 3A – Distro A – Open Sessions

GRAND BALLROOM 1-2

Chair: Perry Salyers

24411 – Accelerating New Technology to the Warfighter
Steve Redington, Senior Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

24215 – Programmable Medium Caliber Fuzing Systems; Wireless Programming with Date Logging
Ole Stastad, Electrical Engineer, R&D Fuze & Warhead Technology, Nammo Raufoss AS

24230 – Development of a Solid State Based MCEFI Package
Gert Scholtes, Senior Scientist, Energetic Materials, J.H.G. Scholtes M. Sc.

24205 – Detonation Capacitors within EFI Applications
Victor Lu, Knowles Applications Engineer, Knowles Precision Devices

24208 – Best Practices in Risk Mitigation for Munition Manufacturers
Nock Dolan, Senior Account Manager, TIP Technologies

Session 3B – Distro D – Closed Session

GRAND BALLROOM 7-9

Chair: Homesh Lalbahadur
Assistant Chair: Thomas Harward

24402 – Pressure Activated Battery System

24410 – Next Generation Grenade Power Source Development
Guiseppe DiBenedetto, Ph.D., Chemical Engineer, U.S. Army DEVCOM Armaments Center

24409 – Thermal Characterization of Materials for Improved Modeling and Simulation of Thermal Batteries
Peggy Sanchez | Dr. Giuseppe DiBenedetto, Ph.D., Chemical Engineer, U.S. Army DEVCOM Armaments Center

24196 – LEEFI Detonator Characterization in High Temperature Applications
Christopher Nance, Vice President of Engineering, Reynolds Systems Inc.

24238 – M100 Detonator Improvements for Increased Survivability and More Predictable Function
Joseph Carda, Staff Engineer, Defense Systems, Northrop Grumman Corporation | Chris Bulian, General Manager, Tech Ord

24415 – Characterization of Materials for EFI Performance
Lei Zheng, Electronics Engineer, Fuze Division, DEVCOM - Armaments Center, Electronics Engineer, Fuze Division, DEVCOM - Armaments Center

10:00 – 10:20 am

NETWORKING BREAK

GRAND PRE-FUNCTION

10:20 am – 12:00 pm

Session 4A – Distro A - Open Sessions

GRAND BALLROOM 1-2

Chair: Jeff Rybak
Assistant Chair: Nassir Alaboud

24232 – High Reliability Dual Purpose Improved Conventional Munition Replacement Project
Taylor Young, Engineer, Naval Surface Warfare Center – Indian Head Division

24212 – Extreme Environment Testing via Ballistically Fired Water Impact with Dialable Effects
Shane Curtis, Manager, Sandia National Laboratories

24224 – High Resolution Height of Burst and Aim Point Refinement MIMO Radar
Alexander Kley, Senior Engineering Manager, CAES

24227 – High Voltage Polymer Multi-Layer Capacitor Development, Characterization, and Environmental Testing
Alex Robinson, R & D Electrical Engineering, Sandia National Laboratories | Josh Dye, Electrical Engineer, Sandia National Laboratories

Session 4B – Distro D - Closed Sessions

GRAND BALLROOM 7-9

Chair: Mark Etheridge
Assistant Chair: Mike Deeds

24226 – Detonator Survivability Phase 1: Post Environmental Evaluation of DHD Detonator and RSI-1120 Detonator
Jerome Norris, Engineer, Energetic component Design, Dept 7553, Sandia National Laboratories – Albuquerque

24236 – Safe and Arm Sensing for Small UAS
Caitlyn May, Mechanical Engineer, Naval Surface Warfare Center – Indian Head Division

24234 – DSU-43 Cockpit Selectable Height-of-Burst Sensor (C-HOBS) Technology Overview and Test Results
Daniel Arvo, Chief Engineer, Weapons and Sesor Programs, Advanced Systems & Technology, Aviation Systems, L3Harris Technologies

24235 – Precision Height-of-Burst Sensor (P-HOBS) and Target Scene Generator (TSG) Real-Time Integration and Demonstration
Andrew Harlan, Electrical Engineer, Advanced Systems & Technologies, Aviation Systems, L3Harris Technologies | Don Atkins

24222 – EO-Based Sensor for C-UAS Airburst Detonation
William Elkins, Staff Engineer, Kaman Precision Products

12:00 – 1:00 pm

NETWORKING LUNCH
GRAND BALLROOM 3-6

1:00 – 3:00 pm

Session 5A – Distro A – Open Sessions
GRAND BALLROOM 1-2

Chair: Nassir Alaboud
Assistant Chair: Ciarra Villa

24214 – Multifunctional Metamaterials for Environmental and Structural Health Sensing
Josh Dye, Electrical Engineer, Sandia National Laboratories

24250 – Bent Pin Analysis: Methodology and Best Practices
Eric McDonough, Engineer, Northrop Grumman Corporation

24263 – New Power Sources for Challenging Electronic Fuzes
Roland Hein, Engineering Fuze Batteries, Diehl Energy Products GmbH

24355 – JOTP-051 Compliant Use of SRAM Based FPGAs
John Aasen, Senior Project Engineer, Missile Systems, Kongsberg Defence & Aerospace AS

24354 – Use of Simulation Methods in the Safety Assessment of Detonators and Ignition Circuits Against Electromagnetic Interference
Dr. Siegfried Nau, Department Head, Measurement and Sensor Technology, Frauenhofer Institute for High-Speed Dynamics, Ernst-Mach-Institute, EMI

Martin Schwarz, Program Manager and Scientist/ M.Sc, Technical Center for Information Technology and Electronics (WTD 81)

Session 5B – Distro D - Closed Sessions
GRAND BALLROOM 7-9

Chair: Maj Adam Corley
Assistant Chair: Roy Streetz

24408 – Silicon Carbide (SiC) High Voltage Switch Maturation
Robert Alston, Electronics Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

24231 – L3Harris Multi-Channel, Agile Radar Sensor Technology Supporting Height-of-Burst and Seeker Capability
Dr. Brian Cordill, Systems Engineer, L3Harris

24413 – Development of Miniature Low-Cost Tracking Sensor for Proximity Fuzes
Lam Vo, Electronics Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

24401 – The Modeling of Command Detonation System for Burst Point Control
Viktor Bana, Electronics Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

24407 – Fuze Enhanced Airburst Response for Medium Caliber Munitions
Alexander Neeb, Mechanical Engineer, Fuze Division, U.S. Army DEVCOM – Armaments Center

24213 – Applying Machine Learning Optimization Methodologies to Interpret Embedded Fuze Environments
Drew Malechuk, Principal Engineer, FEA Team Manager, Southwest Division, Applied Research Associates, Inc.

3:00 – 3:20 pm

NETWORKING BREAK
GRAND PRE-FUNCTION

3:20 – 5:00 pm

Session 6A – Distro A – Open Sessions

GRAND BALLROOM 1-2

NO SCHEDULED SESSIONS

Session 6B – Distro D – Closed Sessions

GRAND BALLROOM 7-9

Chair: Glen Kading
Assistant Chair: Nassir Alaboud

24218 – Modeling and Experimentation of Embedded Fuzing Fire – Train in Harsh Dynamic Pressure Environments
Shane Curtis, Manager, Sandia National Laboratories

24217 – Plasma Current Mitigation Techniques on the ADTROL Program
Paul Kern, Staff Electrical Engineer, L3Harris Fuzing & Ordnance Systems

24240 – High Shock Modeling of Fuze Components
Chris Cao, Mechanical Engineer, Naval Surface Warfare Center – Indian Head Division

24239 – High Voltage Fireset Component Behavior at Elevated Temperatures
Chris Cao, Mechanical Engineer, Naval Surface Warfare Center – Indian Head Division

24229 – Wireless Power Transmission and Communication for Remote Fuzing Applications
Josh Dye, Electrical Engineer, Sandia National Laboratories

5:00 – 5:10 pm

CLOSING REMARKS

GRAND BALLROOM 7-9

Nassir Alaboud
Lockheed Martin Fellow, Systems Safety Engineering, LSE Lockheed Martin, Missile & Fire Control

KEYNOTE BIOGRAPHY

MICHAEL HOLTHE

Director for Platforms and Weapons Technologies
Office of the Under Secretary of Defense for Research and Engineering

Mr. Holthe was appointed to the Senior Executive Service in April 2020 and currently serves as Director for Platforms and Weapons Technologies in the Office of the Under Secretary of Defense for Research and Engineering. In this role, Mr. Holthe serves as senior expert and top advisor to the DoD on platforms and weapons technology areas. Mr. Holthe is responsible for the oversight of science and technology efforts and developments in aerospace technologies and propulsion, directed energy, munitions, nuclear delivery systems, operational power and energy, materials, and unmanned systems, across platforms and weapons in the domains of air, land, sea and space.

Previously, Mr. Holthe served as the Director for Lethality Portfolio in the Office of the Deputy Assistant Secretary of the Army (Research and Technology). In this role, Mr. Holthe was responsible for lethality science and technology efforts including energetics, propulsion and warheads, guidance and seekers, both Kinetic and Directed Energy Weapons for affordable air defense, missile and cannon artillery, and soldier weapon technologies.

In 2016, Mr. Holthe was assigned as the Acting Tier I SES Director for Technology and Deputy to the Deputy Assistant Secretary of the Army (Research and Technology). Mr. Holthe served as the principal Science and Technology (S&T) strategic planner and as the top-level liaison, coordinator, manager and spokesperson for the Army's 6.1 (Basic Research), 6.2 (Applied Research), 6.3 (Advanced Technology Development), 6.4 (Technology Maturation Initiative), and 6.7 (Manufacturing Technology) Budget Activities of the Army's Research, Development, Test and Evaluation (RDT&E) program.

Mr. Holthe received a B.A. in Sport Science with an emphasis in Sports Medicine from Saint Olaf College, Northfield, MN in 1995. He received an M.S. in Exercise Science (Biomechanics) from Iowa State University, Ames, IA in 1999. Mr. Holthe completed the Advanced Acquisition Program from the Naval Postgraduate School in 2003 and graduated from the Competitive Development Group/ Army Acquisition Fellowship Program in 2014 where he served as Assistant Product Manager and Systems Integrator at PEO Soldier, as the Natick Soldier Research Development and Engineering Center Liaison Officer in the Office of the Deputy Assistant Secretary of the Army (Research and Technology), and as a Budget Analyst for Missile Procurement and RDT&E in the Office of the Assistant Secretary of the Army (Financial Management and Comptroller)/ Army Budget Office.

Mr. Holthe became a member of the Army Acquisition Corps in 2006 and is a 2018 graduate of the Office of Personnel Management's Federal Executive Institute Leadership for a Democratic Society program.

HARRY DIAMOND FUZING EXCELLENCE AWARD RECIPIENT

JAMES LUCAS

Northrop Grumman Fellow
Northrop Grumman Defense Systems

Mr. Lucas is an NG Fellow for the Fuzing and Warheads operating unit of Northrop Grumman's Weapon Systems Division – Defense Systems Sector. He is a graduate of Michigan Technological University with a Bachelor of Science degree in Electrical Engineering. He began his 39-plus year career for NG in working a variety of technologies for the MK46 and MK 50 torpedo programs including advanced sonar processing research, deep water torpedo testing, torpedo exploder testing, and electromagnetic environmental effects system testing. In 1991, Mr. Lucas transitioned into fuzing design and development and worked on some of the early electronic fuzes including command arm artillery and mortar fuzes, multipoint and multimode warhead initiation systems, and electronic safe and arm devices. Today, Mr Lucas' experience spans across a multitude of fuzing technology and development programs encompassing concept design, engineering development, qualification, and production phases of weapon fuzing system life-cycle and across all DoD services. His expertise is in munition fuzing systems comprised of electronic safe and arm devices, fuzing safety architectures, multipoint initiation systems, fuzing fireset technologies, and electronic packaging for high-g fuzing applications. He has pioneered the development of key in-line components for electronic fuzes which benefit the warfighter in enhanced capabilities for penetrating weapons. Mr. Lucas is a recipient of the ATK Gold Award for the development of the safety architecture and fuzing electronics design for the XM7 Spider remotely controlled barrier munition and the NG Simon Ramo Systems Engineering Award for his work in developing the fuzing safety architecture for the FMU-139D/B bomb fuze. Mr. Lucas has worked in over 140 fuzing technology and development programs in his career, holds eleven patents and has one patent-pending.

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Defense Electronic Systems (DES), a division of L3Harris, provides precision electronic components, subsystems, and systems for the DOD and international allies. DES specializes in the design and manufacture of precision munition devices and legacy fuze solutions, ignition safety devices, proximity sensors, military GPS receivers, assured position, navigation and timing (A-PNT) capabilities, and ruggedized aerospace status indicators. Headquartered near Cincinnati, Ohio, DES' primary manufacturing facility was specifically designed and constructed for the manufacture of fuzing and ordnance systems and precision electronic components. With additional locations in Anaheim, CA, and Cape Canaveral, FL, DES has strategically positioned its resources, including program management, engineering, and quality assurance, at each site to ensure complete adherence to programmatic and technical requirements.

Dedicated to continuous improvement, DES operates a quality management system certified to AS9100D and ISO 9001:2015 standards. With highly flexible manufacturing operations, DES can accommodate a variety of products, with run rates that can exceed 40,000 units per month down to individual production units for development efforts. DES also has on-site inspection and test capabilities to perform all required environmental test procedures.
At DES, customer focus is a key element of who we are and how we operate. Our Customers are the fooundation of our success and we are committed to establishing long-term relationships and ensuring collaboration throughtout the product lifecycle DES is a trusted partner you can count on to deliver quality products and solve your toughest technical challenges. To learn more, please visit www.L3Harris.com, or call 513-943-2000.

NORTHROP GRUMMAN

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PacSci EMC

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EXCELITAS TECHNOLOGIES®

Excelitas is a leader in the design, test, and manufacture of energetic products for electronic safing, initiation, actuation, and detonation applications. Our scientific, engineering, and manufacturing personnel have more than three decades of experience and have developed a fundamental understanding of all aspects of energetic device performance and testing.

We specialize in the design, manufacture, and testing of MIL-STD-1316 compliant products for safe fuzing requirements. We also provide a wide range of energetic components including actuators, detonators, initiators, and timers. Our products are manufactured to precise standards enabling high reliability and consistency.

While we offer a vast array of off-the-shelf premium products, our greatest offering lies in our distinguishing ability to deliver bespoke photonic solutions tailored to our customers' specific requirements. We work with our customers to guide them to the best solution that presents them with the optimal level of performance, cost, quality and time-to-market.

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Presidio Components has been an industry leader in the manufacture of ceramic capacitors for high reliability applications since 1980. We provide high quality industrial, military, space, high temperature, pulse energy for EFI detonators, microwave and RF capacitors. Our custom products include nonstandard part sizes and voltages, high voltage, high temperature, high "Q", custom leads, cryogenic ceramics, and piezoelectric formulations. We have a series of high performing microwave and radio frequency wirebondable single layer and bypass capacitors as well the best in class surface mount broadband DC blocking caps. Most products can be screened for space applications. Call Presidio at (858) 578-9390.

TABLETOP BY COMPANY

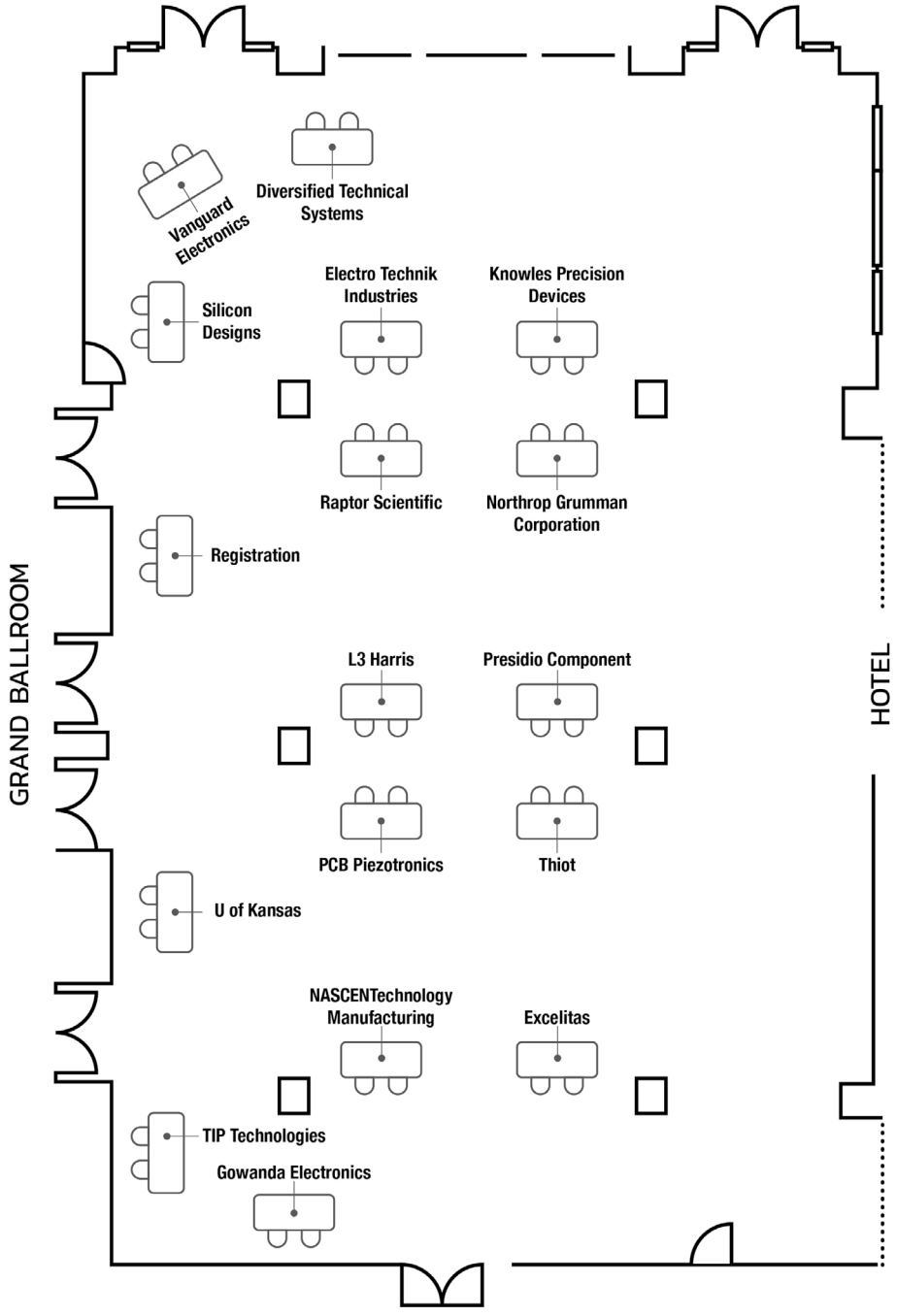
Diversified Technical Systems
Electro Technik Industries
Excelitas
Gowanda Electronics
Knowles Precision Devices
L3Harris
NASCENTechnology Manufacturing
Northrop Grumman Corporation
PCB Piezotronics
Presidio Components, Inc
Raptor Scientific
Silicon Designs, Inc.
The University of Kansas
Thiot Ingenierie
TIP Technologies
Vanguard Electronics

TABLETOP DISPLAY HOURS

WEDNESDAY, MAY 11
9:30 am – 6:30 pm

THURSDAY, MAY 12
9:30 am – 4:00 pm

TABLETOP MAP



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

PLAN AHEAD FOR SUCCESS | 2022 FEATURED MEETINGS, CONFERENCES, AND EVENTS

INTEGRATED PRECISION WARFARE REVIEW (IPWR-22)

May 4 – 5, 2022 | Arlington, VA

Acquisition and Policy | Precision Capability | Air & Missile Defense

2022 CBRN DEFENSE CONFERENCE AND EXHIBITION

July 26 – 28, 2022 | Baltimore, MD

Combat Architecture | Defensive Measures | Demilitarization | Preparedness | Industrial Base

BREAKTHROUGH ENERGETICS 2022**

May 4 – 5, 2022 | West Lafayette, IN

Science & Engineering Technology | Propellants | Explosives | Modeling & Simulation

2022 SPACE WARFIGHTING INDUSTRY FORUM (SWIF)**

August 17 – 18*, 2022 | Colorado Springs, CO**

Defense Research & Development | Science & Technology

65TH ANNUAL FUZE CONFERENCE

May 10 – 12, 2022 | Renton, WA

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

FUTURE FORCE CAPABILITIES CONFERENCE & EXHIBITION

September 19 – 22, 2022 | Austin, TX

Autonomous Systems | GARM | Live Fire | Multi-Domain | Small Arms | EOD

2022 SPECIAL OPERATIONS FORCES INDUSTRY CONFERENCE & EXHIBITION (SOFIC)

May 16 – 19, 2022 | Tampa, FL

Communications | Light Vehicles | Small Arms | Special Operations

UNDERSEA WARFARE FALL CONFERENCE*

September 26 – 28, 2022 | Groton, CT

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

TRAINING & SIMULATION INDUSTRY SYMPOSIUM (TSIS)

June 15 – 16, 2022 | Orlando, FL

Training | Simulation | Modeling | Acquisition/Funding

25TH ANNUAL SYSTEMS & MISSION ENGINEERING CONFERENCE

November 1 – 3, 2022 | Orlando, FL

Program management, Security models, Test & evaluation, Manufacturing

2022 HUMAN SYSTEMS CONFERENCE

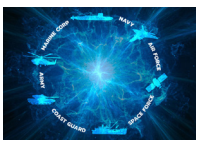
June 15 – 16, 2022 | Arlington, VA

Human Systems | Joint Cognitive Systems | Human Systems Integrations | Artificial Intelligence

33RD ANNUAL NDIA SO/LIC SYMPOSIUM

November 17 – 18, 2022 | Washington, DC

Special Operations Forces | Strategic Competition



2022 JADC2 & ALL DOMAIN WARFARE SYMPOSIUM**

July 11 – 13, 2022 | Mclean, VA

Cyber | Cyber-Augmented Operations | Information Technology | Warfare

I/ITSEC 2022

November 28 – December 2, 2022 | Orlando, FL

Simulation | Training | Virtual Reality

*All Classified | **Partially Classified

VISIT NDIA.ORG FOR MORE INFORMATION ON ALL OF OUR MEETINGS, CONFERENCES, AND EVENTS