2017 Fuze Conference
Celebrating 60 Years of Fuzing Excellence

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May 9–11, 2017
Westin Cincinnati, Cincinnati, OH
TUESDAY, MAY 9TH

3:00 PM - 4:30 PM Table Top Display Set Up - *Gibson Foyer*

4:30 PM - 6:00 PM Registration and Opening Reception - *Gibson Foyer*

WEDNESDAY, MAY 10TH

7:00 AM - 8:00 AM Registration and Continental Breakfast - *Gibson Foyer*

Session I - Welcome, Administrative & Keynote Address - *Presidential Ballroom I-II*

8:00 AM - 8:05 AM Introduction & Administrative Announcements

Mr. Bob Hertlein, L-3 Fuzing and Ordnance Systems, NDIA Fuze Committee Chair

8:05 AM - 8:15 AM NDIA Opening Remarks

Mr. Frank Michael, *SVP, Program Development*, National Defense Industrial Association

8:15 AM - 8:45 AM Keynote Address

Dr. Yvette Weber, *Air Force Deputy Program Executive Officer for Weapons*, Armament Directorate

Session II - U.S. Government Science, Technology & Acquisition

Session Chair: Mr. Ed Cooper

Session Assistant: Mr. Bob Hertlein

8:45 AM - 9:10 AM Army S&T Strategy

Mr. Thomas Crowley, *Chief, Munitions Fuzing Branch*, US Army ARDEC

Mr. Rick Kulbacki, *Electronics Engineer*, US Army RDECOM AMRDEC

9:10 AM - 9:30 AM Navy S&T Strategy

Dr. Michael Deeds, *Fuze and Initiation Systems Branch Manager*, NSWC IHEODTD

9:30 AM - 10:00 AM Air Force S&T Strategy

Mr. George Jolly, *Technical Advisor*, Air Force Research Laboratory

10:00 AM - 10:30 AM Morning Break - *Gibson Foyer*

10:30 AM - 11:00 AM OSD Perspective/Fuze IPT

Mr. Lawrence Fan, *JFTP Manager*, NSWC IHEODTD

11:00 AM - 11:30 AM Joint Fuze Technology Program (JFTP)

Mr. Lawrence Fan, *JFTP Manager*, NSWC IHEODTD

11:30 AM - 11:50 AM International Collaboration in Fuze R&D: Opportunities and Perspectives

Dr. Jason Foley, *International Program Officer*, European Office of Aerospace R&D

11:50 AM - 12:00 PM Harry Diamond Fuzing Award Ceremony

12:00 PM - 1:00 PM Lunch - *Fountain Room*

Please note that the Closed Sessions are for U.S. Citizens Only. You must check-in at the Security Certification table to obtain the daily colored wrist band.
### Session IIIA
**Session Chairs:** Nassir Alaboud & Ed Cooper
**OPEN SESSION**
- **1:00 PM** - 19236 - Digital Device Architecture and the Safe Use of Flash Devices in Munitions
  - Mr. Richard Katz, NASA
- **1:20 PM** - 19239 - Environmental Effects on Data Retention in Flash Cells
  - Mr. Richard Katz, NASA
- **1:40 PM** - 19279 - Challenges of using Logic Devices in the Implementation of Safety Features for Fuzing Systems
  - Mr. Stefan Ebenhoehc, Fraunhofer Ernst Mach Inst.
- **2:00 PM** - 19273 - Use of Multi-core Processor Technology in Fuzing Systems
  - Mr. Jeffrey Fornoff, US Army ARDEC
- **2:20 PM** - 20000 - Precision Munition and Fuze Initiatives
  - Mr. Gregory Bischer, US Army, Guided Precision Munitions and Mortar Systems
- **2:40 PM** - 19340 - Conventional Fuze Improvements
  - Mr. Keith Amadio, US Army ARDEC

### Session IIIB
**Session Chairs:** Thomas Harvard & Doug Harms
**CLOSED SESSION**
- **9:00 AM** - 19379 - UK Minaturised, Hard Target Fuze Research
  - Mr. Laurie Turner, Thales
- **10:00 AM** - 19376 - Dual Mode Ladar/Radar TDD TRL5 UK Technology Demonstration Program
  - Mr. Gary Buzzard, Thales
- **11:00 AM** - 19196 - Virtually Integrating Switching Technology Progress & Test Results
  - Mr. Brad Hanna, NSWC Dahlgren
- **12:00 PM** - 19363 - Joint Fuze Technology's Next Generation Proximity Sensors
  - Mr. Evan Young, US Army ARDEC
- **1:00 PM** - 19213 - High Reliability DPICM Replacement (HRDR)
  - Mr. Kevin Cochran, NSWC Indian Head
- **2:00 PM** - 19322 - Stacked MOSFET/IGBT Pulse Discharge Switch
  - Mr. Paul Anderson, NAWCWD China Lake

### Session IVA
**Session Chairs:** Ray Streitz & Mark Etheridge
**OPEN SESSION**
  - Mr. Laurie Turner, Thales
- **4:00 PM** - 19287 - Next Generation 40mm IG Fuzes
  - Mr. Florian Kunz, Junghans Defence
- **4:40 PM** - 19374 - New Ladar/Magnetic TDD Development for a US Army Anti Armour Weapon
  - Mr. Gary Buzzard, Thales
- **5:20 PM** - 19368 - Shock Testing of 3D Printed Multi-material Circuits
  - Dr. Amanda Schrand, AFRL
- **6:00 PM** - 19191 - Influence of the Embedded Position for Damages and Reactive Threshold Induced by Concrete Penetration
  - Dr. Alexandre Lefrancois, Centre de Gramat
- **6:40 PM** - 19266 - Imaging Fuze Experimentation for Weapon Terminal Burstpoint Control
  - Dr. Matthew Burfeindt, AFRL

### Session IVB
**Session Chairs:** Eric Roach & Don Shutt
**CLOSED SESSION**
- **8:00 AM** - 19337 - Low-Cost, Low-Energy EFIs Using Commercial Materials and Processes
  - Mr. Michael Ward, Electronics Development Corporation
- **9:00 AM** - 19374 - Hard Target Detonator Research Using Binderized RSI-007 and Alternate Microchip
  - Mr. Emmanuel Morales, Reynolds Systems
- **10:00 AM** - 19354 - Computational Modeling of Exploding Foil Initiators (EFIs)
  - Mr. Ed Wild, AFRL
- **11:00 AM** - 19312 - Hardened Selectable Multipoint Fuzing
  - Mr. Michael Connolly, US Army RDECOM AMRDEC
- **12:00 PM** - 19305 - Using Modeled Impact Response of 3-D Printed Materials for High-G Survivability
  - Mr. Ezra Chen, NSWC Indian Head
- **1:00 PM** - 19330 - Advanced Analysis Techniques for the Implementation of Flash Devices In Safety-Critica Applications
  - Mr. David Flowers, Defense Microelectronics Activity

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**THURSDAY, MAY 11TH**

**7:00 AM - 8:00 AM** - Registration and Continental Breakfast

**8:00 AM - 12:00 PM** - Concurrent Sessions:

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**Registration and Continental Breakfast - Gibson Foyer**

**Adjourn - Fountain Room**
## Schedule

### 10:00 AM - 10:20
**Morning Break - Gibson Foyer**

### 10:20 AM - 11:40 AM

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<th>SESSION</th>
<th>10:20 AM</th>
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<tr>
<td><strong>SESSION VA</strong>&lt;br&gt;Session Chairs: Roy Streitz &amp; Mark Etheridge</td>
<td>19359 - Dynamic Initiator Imaging at the Advanced Photon Source: Understanding the Early Stages of Initiator Function and Subsequent Explosive Interactions&lt;br&gt;Dr. Nate Sanchez, Los Alamos National Laboratories</td>
<td>19502 - Development of Environmentally Benign Pyrotechnic Delays&lt;br&gt;Dr. Jay Poret, US Army RDECOM-ARDEC</td>
<td>19284 - Insensitive Electric Priming And Fusing Ignition Method Using Aluminum Nitride/Tungsten Trace Heaters&lt;br&gt;Mr. Howard Kent, Armor Development Group, LLC</td>
<td>19252 - DBX-1 - Green Primary Explosive Related Efforts&lt;br&gt;Mr. Steve Marino, Action Manufacturing Company</td>
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<tr>
<td><strong>SESSION VB</strong>&lt;br&gt;Session Chairs: Eric Rosch &amp; Don Shutt</td>
<td>19246 - Precision Height-of-Burst Proximity Sensor Field Test Results&lt;br&gt;Ms. Amanda Skuza, L-3 Mustang</td>
<td>19228 - Dynamic Target Model Simulation Enhancements for Advanced Fuze Processor Development&lt;br&gt;Mr. Charles H Overman IV, University of Florida</td>
<td>19267 - Fast Synthetic Scene Generation for Fuze Sensor Development&lt;br&gt;Dr. Matthew Burfeindt, AFRL</td>
<td>19259 - FMU-160A/B Proximity Fuze&lt;br&gt;Mr. Keith Amadio/ Mr. Scott Colegrove, US Army AMRDEC</td>
<td>19314 - Wireless Power Transmission for Remote Fuzing Applications&lt;br&gt;Mr. Thomas Hartmann, Sandia National Laboratories</td>
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### 11:40 AM - 12:00 PM
**Lunch - Fountain Room**

### 1:00 PM - 5:20 PM
**Concurrent Sessions:**

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<tr>
<td><strong>SESSION VA</strong>&lt;br&gt;Session Chairs: Bob Hertlein &amp; Byron Lee</td>
<td>19317 - Fuze Modeling Grand Challenge: Computational Comparisons Round 3&lt;br&gt;Dr. Janet Wolfson, AFRL</td>
<td>19206 - Higher-Order Finite-Element Analysis for Fuzes Subjected to High-Frequency Environments&lt;br&gt;Dr. Stephen Beissel, Southwest Research Institute</td>
<td>19230 - Explicit Dynamics based System Simulation of Hardened Fuzing Systems&lt;br&gt;Dr. Raphael Gutser, TDW GmbH</td>
<td>19308 - Modeling and Simulation of a High Fidelity Electronics Assembly Responding to Drop Test&lt;br&gt;Mr. Miroslav Tesla, US Army ARDEC</td>
<td>19501 - Integration of Fire Set Structures using Additive Manufacturing&lt;br&gt;Mr. Daniel Pitts, US Army AMRDEC</td>
<td>19315 - DoD MEMS Fuze Explosive Train Evaluation &amp; Enhancement&lt;br&gt;Mr. Taylor Young, NSWC Indian Head</td>
</tr>
<tr>
<td><strong>SESSION VB</strong>&lt;br&gt;Session Chairs: Bruce Hornberger &amp; Frank Parchild</td>
<td>19321 - Energy Harvesting and Event Detection for Electronic Safe Arm Fuzing (ESAF) in Gravity Dropped Weapons&lt;br&gt;Mr. Paul Anderson, NAWCWD China Lake</td>
<td>19203 - On-Board Power Generation for a 68mm Shoulder Fired System&lt;br&gt;Mr. Chris Savarese, Nammo Talley</td>
<td>19281 - Testing Philosophy for Distributed Fuzing Applications&lt;br&gt;Mr. Chuck Treu, DOE National Security Campus</td>
<td>19227 - Fuze Setting Technologies for Rockets &amp; Missiles&lt;br&gt;Mr. Mark Etheridge, US Army AMRDEC</td>
<td>19328 - Mechanical Survivability of Embedded Fireset in Quasi-Static and Dynamic High-Pressure Environment&lt;br&gt;Lt Cole Piper, AFRL</td>
<td>19338 - Advanced Optical Fuze Programmer&lt;br&gt;Mr. Michael Strauss, Creative Microsystems</td>
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### 3:00 PM - 3:20 PM
**Afternoon Break - Gibson Foyer**

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<td><strong>SESSION VA</strong>&lt;br&gt;Session Chairs: Bob Hertlein &amp; Byron Lee</td>
<td>19390 - Wireless Data Recording&lt;br&gt;Mr. Perry Salyers, L-3 FOS</td>
<td>19307 - Fatigue and High Strain Rate Behavior of SAC305 Solder&lt;br&gt;Dr. Vasant Joshi, NSWC Indian Head</td>
<td>19245 - Integrated Inertia Switches for Fuzing Applications&lt;br&gt;Dr. Todd Christenson, HT Micro</td>
<td>19346 - Design Challenges and Considerations for Embedded Fuzing&lt;br&gt;Mr. Brent Francis, L-3 FOS</td>
<td>19178 - Down Range Drag Correction for Medium Caliber Munitions&lt;br&gt;Mr. Andrew Surowiec, US Army ARDEC</td>
<td>19371 - Parametric Determination of a Fireset's Ability to Reliably Fire an Exploding Foil Initiated Detonator&lt;br&gt;Dr. Glen Kading, Excelitas Technologies</td>
</tr>
<tr>
<td><strong>SESSION VB</strong>&lt;br&gt;Session Chairs: Bruce Hornberger &amp; Frank Parchild</td>
<td>19352 - Embedded Precision Initiative for Next-generation Engagements (PINE) Fireset R&amp;D for General Purpose Warhead Applications&lt;br&gt;Mr. John Bailey, AFRL</td>
<td>19358 - Developing Additive Manufacturing Process Parameters for Fuze Applications&lt;br&gt;Ms. Leila Zunino, US Army AMRDEC</td>
<td>19249 - Dynamic High-Pressure Environment&lt;br&gt;Mr. Steve Marino, Action Manufacturing Company</td>
<td>19307 - Fatigue and High Strain Rate Behavior of SAC305 Solder&lt;br&gt;Dr. Vasant Joshi, NSWC Indian Head</td>
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### 5:20 PM
**Conference Adjourn**
## DISPLAYING COMPANIES

- Diehl & Eagle Picher GmbH
- EnerSys
- Excelitas Technologies Corp.
- Gowanda Electronics
- HT MicroAnalytical, Inc.
- Knowles-Novacap
- Meggitt Sensing Systems
- NASCENTechnology Manufacturing, Inc.
- PCB Piezotronics, Inc.
- Presidio Components, Inc.
- Teledyne e2v
- Vanguard Electronics
- Workers Explosives Safety Training, Inc. (WEST)

## DISPLAY HOURS

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<td>UAE Armed Forces</td>
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<td>John Aasen</td>
<td>Kongsberg Defence Systems</td>
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<td>Lockheed Martin Missiles and Fire Control</td>
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<td>Karen Amabile</td>
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<td>Keith Amadio</td>
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<td>Antonio Barreiro</td>
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<td>L3 Fuzing &amp; Ordnance Systems</td>
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<td>Carsten Becker</td>
<td>JUNGHANS Defence</td>
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<td>Elizabeth Becker</td>
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Leila Zunino
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At L3 FOS, customer focus is a key element of who we are and how we operate. Our customers are the foundation of our success, so we work to establish long-term relationships and ensure collaboration throughout the entire process, from concept through sustainment.

L3 FOS is committed to supporting the warfighter by providing highly reliable fuzes, safety and arming devices, proximity sensors and related products. We will continue to innovate and develop unique solutions by leveraging our valued workforce. To learn more, please visit our website www.L3T.com/FOS or call 513-943-2000.

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