61ST ANNUAL FUZE CONFERENCE
FUZING SOLUTIONS - A GLOBAL PERSPECTIVE

May 15 – 17, 2018
San Diego Marriott Mission Valley
San Diego, CA
NDIA.org/Fuze18
WELCOME TO THE 61ST ANNUAL FUZE CONFERENCE

On behalf of the NDIA Fuze Conference Steering Committee Members and the NDIA, I would like to welcome you to the 61st Annual NDIA Fuze Conference. This international conference brings together the work of the top professionals in the fuzing industry from government, private industry, and academia; and provides an opportunity for the exchange of the latest research and development on fuzing, with the common goal of improving safety for the warfighter. While the history of fuzing dates back several hundred years, and the advances in technology have been significant over that time, many challenges remain. Through the continuing, passionate work of the authors, presenters, sponsors, and attendees at this conference and across our worldwide defense industry, these challenges will be overcome, resulting in safer, more reliable fuzes being fielded to our warfighters.

Roy K. Streetz
Vice President Advanced Electronic Systems
Excelitas Technologies Corporation
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 information, visit NDIA.org

FUZE MUNITIONS

MISSION

The purpose of the Fuze Section shall be to promote an open exchange of technical information among government and industry technical 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

San Diego Marriott Mission Valley
8757 Rio San Diego Drive
San Diego, CA 92108

EVENT WEBSITE

NDIA.org/Fuze18

WI-FI

Network: Marriott_Conference | Password: fuze18

EVENT CONTACT

Reneé Despot
Manager, Meetings
(703) 247-2599
rdespot@ndia.org

Meredith Mangas
Associate Director, Meetings
(703) 247-9467
mmangas@ndia.org

PLANNING COMMITTEE

Roy Streetz
Event Chair

Nassir Alaboud
Ray Ash
Ed Cooper
Chris DeWitt
Mark Etheridge

Frank Fairchild
Lawrence Fan
Doug Harms
Thomas Harward
Robert Herlein
Bruce Hornberger
William Konick

Bill Kurtz
Homesh
Lalbahadur
David Lawson
Homesh
Lalbahadur
David Lawson
Byron Lee

Telly Manolatos
Bob Metz
Barry Neyer
Eric Roach
Perry Salyers
James Sharp
Don Shutt
Martin Tanenhaus

ATTIRE

Business casual for civilians and uniform of the day for military personnel.

ATTENDEE ROSTER, SURVEY, AND PROCEEDINGS

A list of attendees (name and organization only), presentation proceedings, and conference survey will be emailed to you after the conference. NDIA would appreciate your time in completing the survey to help make our event even more successful in the future.

SPEAKER GIFTS

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

HARASSMENT STATEMENT

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.
AGENDA

TUESDAY, MAY 15

4:00 – 6:00 pm  REGISTRATION
RIO VISTA GRAND FOYER
Sponsored By L3 Defense Electronic Systems

4:00 – 6:00 pm  OPENING RECEPTION
RIO VISTA GRAND FOYER
Sponsored By L3 Defense Electronic Systems

WEDNESDAY, MAY 16

7:00 am – 5:20 pm  REGISTRATION
RIO VISTA GRAND FOYER
Sponsored By L3 Defense Electronic Systems

7:00 – 8:00 am  CONTINENTAL BREAKFAST
RIO VISTA GRAND FOYER
Sponsored By PCB Piezotronics, Inc.

SESSION 1 – WELCOME, ADMIN REMARKS & KEYNOTE ADDRESS
RIO VISTA GRAND BALLROOM, SALONS A - E

8:00 – 8:05 am  INTRODUCTION & ADMIN REMARKS
RIO VISTA GRAND BALLROOM, SALONS A - E
Roy Streetz
NDIA Fuze Committee Chair, Excelitas Technologies Corp.

8:05 – 8:15 am  NDIA OPENING REMARKS
RIO VISTA GRAND BALLROOM, SALONS A - E
CAPT Frank Michael, USN (Ret)
Senior Vice President, Programs and Membership, NDIA

8:15 – 8:45 am  KEYNOTE ADDRESS
RIO VISTA GRAND BALLROOM, SALONS A - E
SESSION 2 - U.S. GOVERNMENT SCIENCE, TECHNOLOGY & ACQUISITION
RIO VISTA GRAND BALLROOM, SALONS A - E
Don Shutt
Orbital ATK, Session Chair
Roy Streetz
Excelitas Technologies Corp., Session Assistant

8:45 – 9:10 am
ARMY S&T STRATEGY
RIO VISTA GRAND BALLROOM, SALONS A - E
Shannon Haataja
U.S. Army RDECOM AMRDEC

9:10 – 9:30 am
ARMY S&T STRATEGY
RIO VISTA GRAND BALLROOM, SALONS A - E
Charles Robinson
Mechanical Engineer, U.S. Army RDECOM AMRDEC

9:30 – 10:00 am
NAVY S&T STRATEGY
RIO VISTA GRAND BALLROOM, SALONS A - E
Brandon Stewart
Safe/Arm Development Branch Head, USN NAWCWD China Lake

10:00 – 10:30 am
NETWORKING BREAK
RIO VISTA GRAND FOYER
Sponsored By Pacific Scientific Energetic Materials Company

10:30 – 11:00 am
AIR FORCE S&T STRATEGY
RIO VISTA GRAND BALLROOM, SALONS A - E
George Jolly
Technical Advisor, Air Force Research Library/RWMF

11:00 – 11:20 am
OSD PERSPECTIVE/FUZE IPT
RIO VISTA GRAND BALLROOM, SALONS A - E
Lawrence Fan
JFTP Manager, Naval Surface Warfare Center - Indian Head Division

11:20 – 11:50 am
JOINT FUZE TECHNOLOGY PROGRAM (JFTP)
RIO VISTA GRAND BALLROOM, SALONS A - E
Lawrence Fan
JFTP Manager, Naval Surface Warfare Center - Indian Head Division
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Session Chair</th>
<th>Session Assistant</th>
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</thead>
<tbody>
<tr>
<td>12:00 – 1:00 pm</td>
<td>LUNCH</td>
<td>WEST LAWN</td>
<td>Sponsored By Excelitas Technologies Corp.</td>
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<tr>
<td>1:00 – 1:20 pm</td>
<td><strong>CONCURRENT BREAKOUT SESSIONS</strong></td>
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<tr>
<td><strong>SESSION 3A – OPEN SESSIONS</strong></td>
<td>RIO VISTA GRAND BALLROOM, SALONS F - H</td>
<td>Homesh Lalbahadur</td>
<td>Bob Metz</td>
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<td>U.S. Army ARDEC</td>
<td>PCB Piezotronics, Inc.</td>
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<td><strong>Session Chair</strong></td>
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<td>1:00 – 1:20 pm</td>
<td>Non-Contact Monitoring of a Setback Zig-Zag Switch</td>
<td>Mike Campbell</td>
<td>Sandy Risha</td>
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<td>20386</td>
<td>L3 Defense Electronic Systems</td>
<td>ARDEC Fuze Division</td>
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<tr>
<td>1:20 – 1:40 pm</td>
<td>Design Guidelines for Implementing a Low Voltage</td>
<td>Mark Etheridge</td>
<td>Kevin Cochran</td>
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<td>Distributed Fuzing System</td>
<td>U.S. Army AMRDEC</td>
<td>Naval Surface Warfare Center - Indian Head Division</td>
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<td>20411</td>
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<tr>
<td>1:40 – 2:00 pm</td>
<td>New Generation Naval Fuze FREMEN - Efficiency Against New Threats</td>
<td>Max Perrin</td>
<td>Patrick DeLuca</td>
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<td>20355</td>
<td>JUNGHANS Defence</td>
<td>U.S. Army ARDEC</td>
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<tr>
<td>2:00 – 2:20 pm</td>
<td>Small Thermal Battery for High Spin Environments</td>
<td>Chase Whitman</td>
<td>Hung-Sheng Chern</td>
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<td>20464</td>
<td>EnerSys Advanced Systems</td>
<td>L3 Defense Electronic Systems</td>
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<td>1:00 – 1:20 pm</td>
<td>Overview of ARDEC Fuzing Efforts to Meet DoD Cluster Munition Policy</td>
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<td>1:20 – 1:40 pm</td>
<td>High Reliability DPICM Replacement (HRDR)</td>
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<tr>
<td>1:40 – 2:00 pm</td>
<td>Proximity Sensor for High Reliability DPICM Replacement</td>
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<td>2:00 – 2:20 pm</td>
<td>Target Detection Data Collect Results for the HRDR Program</td>
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<td>2:20 – 2:40 pm</td>
<td>Flow Curve and Failure Conditions for a MEMS-Scale Electrodeposited Nickel Alloy</td>
<td>John Geaney, ARDEC Fuze Division</td>
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<td>A Novel Approach to Defeat High Speed Surface Targets Using the MK 419 Multi-Function Fuze</td>
<td>Jason Koonts, Naval Surface Warfare Center - Dahlgren Division</td>
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<td>Jim Ring, Orbital ATK</td>
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<tr>
<td>2:40 – 3:00 pm</td>
<td>Dynamic High g-Shock Fuze Testing with Support of a Reverse Ballistic Gun and Sled Track</td>
<td>Christian Euba, TDW / MBDA</td>
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<td>FMU-139 D/B Fuze Development</td>
<td>Wayne Steege, Orbital ATK</td>
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<td>3:00 – 3:20 pm</td>
<td>Networking Break</td>
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**SESSIONS**

**SESSION 3A - OPEN SESSIONS**
- Homesh Lalbahadur, U.S. Army ARDEC, Session Chair
- Bob Metz, PCB Piezotronics, Inc., Session Assistant

**SESSION 3B - CLOSED SESSIONS**
- Robert Hertlein, L3 Defense Electronic Systems, Session Chair
- James Sharp, Naval Surface Warfare Center - Dahlgren Division, Session Assistant

**CONCURRENT BREAKOUT SESSIONS**

<table>
<thead>
<tr>
<th>Time</th>
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<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>3:20 – 3:40 pm</td>
<td>PBXN-5 Mechanical Characterization and Proposed Constitutive Model</td>
<td>Dr. Dan Peairs, L3 Defense Electronic Systems</td>
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<td>Using Modeled Impact Response of 3-D Printed Materials for High-G Survivability</td>
<td>Ezra Chen, Naval Surface Warfare Center - Indian Head Division</td>
</tr>
<tr>
<td>3:40 – 4:00 pm</td>
<td>Low G MEMS Inertia Switches for Fuzing Applications</td>
<td>Todd Christenson, HT MicroAnalytical, Inc.</td>
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<td>Smart Embedded Fuzing with Layer Counting Ability</td>
<td>Curtis McKinion, Air Force Research Laboratory</td>
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<tr>
<td>4:00 – 4:20 pm</td>
<td>Mechanical Aspect of Fuze MEMS G-Switch Encapsulation</td>
<td>Small MEMS Fuze G-Switch Sensor: Evaluation and Enhancement</td>
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<td>Miniature Low-Cost Standoff Sensor</td>
<td>G-Switch Encapsulation</td>
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<tr>
<td>4:20 – 4:40 pm</td>
<td>DoD MEMS Fuze Explosive Train Evaluation and Enhancement</td>
<td>Layer Detection for Embedded G-Switch</td>
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<td>Miniature Low-Cost Standoff Sensor</td>
<td>Layer Detection for Embedded G-Switch</td>
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<tr>
<td>4:40 – 5:00 pm</td>
<td>Embedded High G Shock Sensor Behavior Analysis for Severe Perforation Tests</td>
<td>Environmental Safety Pressure Switch</td>
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<tr>
<td>5:00 – 5:20 pm</td>
<td>Advances in Neutron Radiography using a High-Flux, Compact, Thermal Neutron Generator</td>
<td>Session 3B Complete</td>
</tr>
<tr>
<td>5:30 – 7:00 pm</td>
<td>GRAND RECEPTION</td>
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</tbody>
</table>

**THURSDAY, MAY 17**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
<th>Sponsor</th>
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</thead>
<tbody>
<tr>
<td>7:00 am – 12:00 pm</td>
<td>REGISTRATION</td>
<td>RIO VISTA GRAND FOYER</td>
<td>Sponsored By L3 Defense Electronic Systems</td>
</tr>
<tr>
<td>7:00 – 8:00 am</td>
<td>CONTINENTAL BREAKFAST</td>
<td>RIO VISTA GRAND FOYER</td>
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## CONCURRENT BREAKOUT SESSIONS

### SESSION 4A - OPEN SESSIONS
**RIO VISTA GRAND BALLROOM, SALONS F - H**

**Nassir Alaboud**  
Lockheed Martin  
*Session Chair*

**Lawrence Fan**  
Naval Surface Warfare Center - Indian Head Division  
*Session Assistant*

### SESSION 4B - CLOSED SESSIONS
**RIO VISTA GRAND BALLROOM, SALONS A - D**

**Bob Metz**  
PCB Piezotronics, Inc.  
*Session Chair*

**Mark Etheridge**  
U.S. Army AMRDEC  
*Session Assistant*

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>8:00 – 8:20 am</td>
<td>Unmanned Systems Safety Precepts</td>
<td>Jeffrey Fornoff</td>
<td>U.S. Army TACOM-ARDEC</td>
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<td>Distributed Embedded Fuzing System (DEFS) R&amp;D for Next Generation Weapons</td>
<td>Daniel Kang</td>
<td>Air Force Research Laboratory</td>
</tr>
<tr>
<td>8:20 – 8:40 am</td>
<td>Modular Smart Airburst Fuzing Solution for Shoulder-Launched Systems</td>
<td>Wolfgang Karl-Heinz von Entress-Fuersteneck</td>
<td>Junghans Microtec GmbH</td>
</tr>
<tr>
<td>8:40 – 9:00 am</td>
<td>Observations and Solutions of High Voltage Issues for Electronic Safe and Arm Devices</td>
<td>Murat Yazici</td>
<td>Roketsan Missile Industries, Inc.</td>
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<tr>
<td>9:00 – 9:20 am</td>
<td>The Use of Software Quality Assurance Towards the Development of VHDL-Based Safety Critical Hardware</td>
<td>David Geremia</td>
<td>Orbital ATK</td>
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<td>Mechanical Testing of Powered and Instrumented Embedded Fuzes</td>
<td>Hayley Chow</td>
<td>University of Dayton Research Institute</td>
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<tr>
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<td>Session Title</td>
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<td>9:20 – 9:40 am</td>
<td>State of the Art Fuze Batteries and Their Performance</td>
<td>Roland Hein</td>
<td>Diehl &amp; Eagle Picher GmbH</td>
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<td>JFTP Project 14-G-005, Hardened Selectable Multipoint Fuzing (HSMF)</td>
<td>Michael Connolly</td>
<td>U.S. Army AMRDEC</td>
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<tr>
<td>9:40 – 10:00 am</td>
<td>Dynamic Characterization of Shock Mitigating Materials for Electronics Assemblies Subjected to High Acceleration</td>
<td>Dr. Vasant Joshi</td>
<td>Naval Surface Warfare Center - Indian Head Division</td>
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<td>Optimized Potting Solutions for High G Electronics: Optimization Methodology</td>
<td>Dr. Aisha Haynes</td>
<td>U.S. Army ARDEC</td>
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<td>10:00 – 10:20 am</td>
<td>NETWORKING BREAK</td>
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<td>RIO VISTA GRAND FOYER</td>
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<td>Sponsored By Kaman Fuzing &amp; Precision Products</td>
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<tr>
<td>10:20 – 10:40 am</td>
<td>SESSION 4A – OPEN SESSIONS</td>
<td>Nassir Alaboud</td>
<td>Lockheed Martin</td>
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<td>RIO VISTA GRAND BALLROOM, SALONS F - H</td>
<td>Session Chair</td>
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<td>Lawrence Fan</td>
<td>Naval Surface Warfare Center - Indian Head Division</td>
<td>Session Assistant</td>
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<td>From Vacuum Tubes to SoCs: 80 Years of Electronic Fuzing – a Global Perspective Essential for the Future?</td>
<td>Harald Wich</td>
<td>NGF Next Generation Fuze</td>
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<tr>
<td>10:40 – 11:00 am</td>
<td>Imaging Fuze Experimentation: 3D Imaging Results Against Complex Targets</td>
<td>Dr. Matthew Burfeindt</td>
<td>Air Force Research Laboratory</td>
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<td>Experimental Validation of Fast Synthetic Scene Generation Software for Fuze Sensor Development</td>
<td>Dr. Matthew Burfeindt</td>
<td>Air Force Research Laboratory</td>
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<td>Applied Tests Simulating the Impact Shock on an Operating ESAD inside a Missile/Smart Munition</td>
<td>Cemil Gökçe</td>
<td>Roketsan Missile Industries, Inc.</td>
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<table>
<thead>
<tr>
<th>Session</th>
<th>Room</th>
<th>Chair</th>
<th>Assistant</th>
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<tbody>
<tr>
<td>SESSION 4A – OPEN SESSIONS</td>
<td>RIO VISTA GRAND BALLROOM, SALONS F - H</td>
<td>Nassir Alaboud</td>
<td>Lawrence Fan</td>
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<td>SESSION 4B – CLOSED SESSIONS</td>
<td>RIO VISTA GRAND BALLROOM, SALONS A - D</td>
<td>Bob Metz</td>
<td>Mark Etheridge</td>
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<td>11:00 – 11:20 am</td>
<td>Development of Low Energy Electric Initiator</td>
<td>Berkay Akyapi</td>
<td>ASELSAN Inc.</td>
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<td>Programmable Multi-Shot Munition Fuze</td>
<td>Lei Zheng</td>
<td>U.S. Army ARDEC</td>
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<td>11:20 – 11:40 am</td>
<td>Laser Ignition</td>
<td>Stephen Redington</td>
<td>U.S. Army ARDEC</td>
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<td>Adapting a Common Safety Architecture and Modular ESAD Design</td>
<td>Sarah Steffen</td>
<td>Orbital ATK</td>
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<td>11:40 am – 12:00 pm</td>
<td>Rosenthal Model and the Thermal Time Constants of EEDs</td>
<td>Benjamin Lang</td>
<td>Fraunhofer Ernst-Mach-Institut (EMI)</td>
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<td>40mm C-UAS Grenade Fuzing Technology for Today and Tomorrow’s Threats</td>
<td>Tim Hoang</td>
<td>Naval Surface Warfare Center - Indian Head Division</td>
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<td>12:00 – 1:00 pm</td>
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**CONCURRENT BREAKOUT SESSIONS**

**SESSION 5A – OPEN SESSIONS**
RIO VISTA GRAND BALLROOM, SALONS F - H

- Perry Salyers
  - L3 Defense Electronic Systems
  - Session Chair

- David Lawson
  - L3 Defense Electronic Systems
  - Session Assistant

**SESSION 5B – CLOSED SESSIONS**
RIO VISTA GRAND BALLROOM, SALONS A - D

- Byron Lee
  - Orbital ATK
  - Session Chair

- Frank Fairchild
  - Air Force Research Library
  - Session Assistant

<table>
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<tr>
<td>1:00 – 1:20 pm</td>
<td>Green Stab Sensitive Energetic Research</td>
<td>Charles Romaniello III</td>
<td>Picatinny Arsenal</td>
</tr>
<tr>
<td></td>
<td>Tailored EFIs for Enhanced Safety &amp; Performance</td>
<td>Dr. Nate Sanchez</td>
<td>Los Alamos National Laboratory</td>
</tr>
</tbody>
</table>
1:20 – 1:40 pm  Test Method to Evaluate High-g Component Susceptibility 20384
Nathan Millard
L3 Defense Electronic Systems

An Overview to Qualification of a Direct Header Deposition (DHD) Slapper Detonator 20380
Jerome Norris
Sandia National Laboratories

1:40 – 2:00 pm  Reactive Materials for Electrical Initiators 20313
Yao Wang
Institute of Chemical Materials

Muzzle Velocity Correction for Medium Caliber Munitions 20356
Alexander Neeb
U.S. Army Fuze Division

2:00 – 2:20 pm  A New High-Overload Loading Technology Based on Structural Vibration under Periodic Impact of Elastic 20302
Wanjun Wang
Institute of Chemical Materials

Harvesting Energy from Angular Acceleration 20358
Alexander Neeb
U.S. Army Fuze Division

2:20 – 2:40 pm  Statistics for One Shot Devices
Dr. Barry Neyer
Excelitas Technologies Corp.

Defining Structural Dynamic Environments for Penetrator Fuzes 20361
Alma Oliphant

2:40 – 3:00 pm  Statistics for One Shot Devices
Dr. Barry Neyer
Excelitas Technologies Corp.

Development of Setback Locks for High Reliability 20297
John Geaney
ARDEC Fuze Division

3:00 – 3:20 pm  NETWORKING BREAK
RIO VISTA GRAND FOYER
Sponsored By Kaman Fuzing & Precision Products
# CONCURRENT BREAKOUT SESSIONS

## SESSION 5A - OPEN SESSIONS

**RIO VISTA GRAND BALLROOM, SALONS F - H**

**Perry Salyers**  
L3 Defense Electronic Systems  
*Session Chair*

**David Lawson**  
L3 Defense Electronic Systems  
*Session Assistant*

### 3:20 – 3:40 pm

**Statistics for One Shot Devices**  
Dr. Barry Neyer  
Excelitas Technologies Corp.

### 3:40 – 4:00 pm

**Statistics for One Shot Devices**  
Dr. Barry Neyer  
Excelitas Technologies Corp.

### 4:00 – 4:20 pm

**Statistics for One Shot Devices**  
Dr. Barry Neyer  
Excelitas Technologies Corp.

### 4:20 – 4:40 pm

**Statistics for One Shot Devices**  
Dr. Barry Neyer  
Excelitas Technologies Corp.

## SESSION 5B - CLOSED SESSIONS

**RIO VISTA GRAND BALLROOM, SALONS A - D**

**Byron Lee**  
Orbital ATK  
*Session Chair*

**Frank Fairchild**  
Air Force Research Library  
*Session Assistant*

### 3:20 – 3:40 pm

**Development of a Fuze_Safety and Arming Device for the ALaMO 57mm Projectile**  
Marc Worthington  
L3 Defense Electronic Systems

### 3:40 – 4:00 pm

**Material Compatibility of Fuze Components**  
Jason Sweterlitsch  
U.S. Army ARDEC

### 4:00 – 4:20 pm

**Using Finite Element Models to Evaluate Component Functional Risk in High-G Environments**  
Frank Marso  

### 4:20 – 4:40 pm

**Gun Hardened Command Armed MEMS Fuze**  
Dr. Daniel Jean  
Naval Surface Warfare Center - Indian Head Division

## MEA Capabilities

**Philip Comer**  
Defense Microelectronics Activity

**David Flowers**  
Defense Microelectronics Activity

**JOTP-51 Complex Logic Development in Fuzing Systems Utilizing Flash**  
Nicholas Adams  
L3 Defense Electronic Systems
L3 DEFENSE ELECTRONIC SYSTEMS

OPENING RECEPTION & REGISTRATION SPONSOR
L3 Defense Electronic Systems (L3 DES), a division of L3 Technologies, Inc., provides precision electronic components, subsystems, and systems for the Department of Defense and international allies. L3 DES specializes in the design and manufacture of build to print and modernized fuze solutions, ignition safety devices, proximity sensors, inertial measurement and GPS navigation systems, assured position, navigation, and timing (A-PNT) capabilities, aerospace status indicators, and intelligence management systems. As a trusted partner, you can count on L3 DES to deliver quality products and develop superior solutions that enhance capabilities and provide overmatch superiority to the warfighter.

Headquartered near Cincinnati, Ohio, L3 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, Budd Lake, NJ, and San Diego, CA, L3 DES has strategically located its resources, including program management, engineering, and quality assurance, at each site to ensure complete adherence to programmatic and technical requirements, enabling process efficiencies.

Dedicated to continuous improvement, L3 DES operates a quality management system certified to AS9100D and ISO 9001:2015 standards. With highly flexible manufacturing operations, L3 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. L3 DES also has on-site inspection and test capabilities to perform all required environmental test procedures.

At L3 DES, customer focus is a key element of who we are and how we operate. Our customers are the foundation of our success and we are committed to establishing long-term relationships and ensuring collaboration throughout the product lifecycle.

L3 DES is committed to supporting the warfighter. We will continue to innovate and develop unique solutions by leveraging our valued workforce. To learn more, please visit www.L3T.com or call 513-943-2000.
ORBITAL ATK

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Leader in providing innovative defense and aerospace solutions, Excelitas Technologies is committed to enabling our customers’ success in their end-markets. Excelitas Technologies has approximately 6,000 employees in North America, Europe, and Asia; serving customers across the world. Connect with Excelitas on Facebook, LinkedIn, and Twitter.

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# TABLE TOP INFORMATION

## DISPLAY HOURS

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>TUESDAY, MAY 15</td>
<td>4:00 – 6:00 pm</td>
</tr>
<tr>
<td>WEDNESDAY, MAY 16</td>
<td>7:00 am – 7:00 pm</td>
</tr>
<tr>
<td>THURSDAY, MAY 17</td>
<td>7:00 am – 3:30 pm</td>
</tr>
</tbody>
</table>

## TABLE TOP DISPLAYS

- Chem Processing, Inc.
- Diehl & Eagle Picher GmbH
- EnerSys Advanced System
- Excelitas Technologies Corp.
- Gowanda Components Group
- HT MicroAnalytical, Inc.
- Knowles-Novacap
- L3 Defense Electronic Systems
- Meggitt Sensing Systems
- NASCENTechnology Manufacturing, Inc.
- Orbital ATK
- PCB Piezotronics, Inc.
- Presidio Components, Inc.
- Teledyne e2v
- Thiot Ingenieriee

## MAP

![Map of the Ballroom Foyer showing salon layout](image)
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August 6 – 9, 2018
Sheraton San Diego Hotel & Marina
San Diego, CA
NDIA.org/Events