

53rd ANNUAL FUZE CONFERENCE

“Next Generation Fuzing - Maximum Advantage for the Warfighter”



May 19 - 21, 2009
www.ndia.org/meetings/9560

LAKE BUENA VISTA, FL



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HOTEL INFORMATION

Disney's Coronado Springs Resort

1100 West Lake Buena Vista Drive
Lake Buena Vista, FL 32830

Tel: (407) 939-1000

Fax: (407) 939-1001

A limited block of rooms has been reserved at the *Disney's Coronado Springs Resort*. The industry and per diem rate are both \$175 single/double occupancy. To ensure the discounted NDIA rate, please make your reservations early and ask for the NDIA room block. Rooms will not be held after Friday, April 24, 2009 and may sell out before then. Rates are also subject to increase after this date. The government per diem rate is available only to active duty or civilian government employees.

ATTIRE:

The proper attire for this conference is business casual or military uniform Class B (or equivalent).

INQUIRIES:

For more information, contact Michelle Hariston, Associate Director at (703) 247-9478 or via e-mail at mhariston@ndia.org.

TUESDAY, MAY 19, 2009

3:00 pm - Onsite Registration
6:30 pm

5:00 pm - Opening Reception
6:30 pm

WEDNESDAY, MAY 20, 2009

GENERAL SESSION

Session I

7:00 am Onsite Registration/Continental Breakfast

8:00 am Introduction/Administrative Remarks,
*Mr. David Lawson, Chair, Fuze Division
L-3 Fuzing & Ordnance Systems*

8:05 am NDIA Opening Remarks
*MG Barry Bates, Vice President, Operations
National Defense Industrial Association*

8:10 am Keynote Speaker
TBD

Session II

CHAIR: ERIC ROACH ASSISTANT: RICH JOHNSON

8:40 am DTRA Overview
*Danny Hayles, Defense Threat Reduction
Agency*

9:00 am ARDEC Overview
TBD

9:20 am DOE Fuzing and Firing Systems Overview
*Paul Butler and Scott McEntire
Sandia National Lab*

9:40 am BREAK

10:00 am Navy Overview
Randy Cope, NAWCWD China Lake

10:30 am Air Force S&T Strategy
Tim Tobik, Air Force Armament Laboratory

10:50 am Air Force Acquisition Strategy
*Maj Jason Schafer
679th Armament Systems Squadron*

11:10 am Fuze IPT Perspective
Chuck Kelly, OUSD (AT&L)

11:40 am AWARD CEREMONY

WEDNESDAY, MAY 20, 2009**OPEN SESSIONS**Session IIIA**CHAIR: SCOTT POMEROY ASSISTANT: DON SHUTT**

- 1:00 pm Precision Guidance Kit (PGK)
Anthony Pergolizzi, US Army - AFMO
- 1:20 pm Flight Controlled Mortar (FCMortar)
Sanford L. Steelman, III, NSWC Dahlgren
- 1:40 pm AURORA A Next Generation Fuzing System
Laurie John Turner, Thales Missile Electronics Ltd
- 2:00 pm Pyro-MEMS: Technological Breathrough In Fuzes Domain
Renaud Lafont, NEXTER Munitions
- 2:20 pm Guidance Integrated Fuze (GIF), System Development & Testing
Wayne C. Worrell, III, Naval Surface Warfare Center, Dahlgren Division
- 2:40 pm Wireless Programming Of 40mm Grenade Launcher Ammunition
Christian Johnsen, Nammo Raufoss
- 3:00 pm BREAK
- 3:20 pm M759 30mm Fuze Sensitivity Improvements
John Geaney, US Army - ARDEC
- 3:40 pm Consideration Of Projectile Gyro Stability In Developing Fuze Kit Guidance
Chris E. Geswender, Raytheon Missile Systems
- 4:00 pm Joint Programmable Fuze Emulation
2Lt Jack Wiese, USAF - 679 ARSS
- 4:20 pm Void Sensing Fuze
Dale L. Spencer, Kaman Precision Products - Fuzing
- 4:40 pm A Strain Gage Based Projectile Health Monitor And Salvage
Ronald G. Lundgren, Applied Research Associates
- 5:00 pm Future Fuzing: New Operational Needs And Fuze Technical Challenges
Max Perrin, JUNGHANS
- 5:20 pm ADJOURN
- 5:30 pm - 7:00 pm GRAND RECEPTION

US ONLY SESSIONSSession IIIB**CHAIR: TOM BAGINSKI ASSISTANT: FRAN MATTIA**

- 1:00 pm Direct Write Primary Explosives For MEMS Fuzing
Amy Wilson, US Army - ARDEC
- 1:20 pm Integrating Direct Write Technologies For Explosive Systems
Dr. Brian E. Fuchs, US Army - ARDEC
- 1:40 pm MEMS - Compatible Processing Of Energetic Materials
Alexander S. Tappan, Sandia National Laboratories
- 2:00 pm Greening Of Primary Explosives
Neha Mehta, US Army - ARDEC
- 2:20 pm Hard Target Penetrator Systems - Level Effects On Fuzes... Or, Why Did My Fuze Just Break?
Dr. Jason R. Foley, Air Force Research Laboratory
- 2:40 pm Reverse Ballistics Testing On Hard Target Penetrations
2d Lt Lashaun M. Watkins, US Air Force
- 3:00 pm BREAK
- 3:20 pm Development Of A Real-Time, Autonomous Impact Sensor
Dr. Philip Reiner, Stanley Associates, Inc.
- 3:40 pm Design, Test, & Evaluation Of The Lateral Shock Projectile
2d Lt Mitcheal A. Cooksey, Air Force Research Laboratory Munitions Directorate
- 4:00 pm Coupling Guidance And Fuzing Algorithms For Increased Munition Lethality
Dr. Robert R. Bless, Mustang Technology Group
- 4:20 pm High Fidelity, System-Level Modeling Of The Aft-End Components And Fuze Response Within A BLU-109 Penetrator Under Axial And Lateral Loading
John J. Perry, Applied Research Associates
- 4:40 pm Legacy Warhead Fuze Well Structural Integrity
Dennis P. Hancock, USAF AAC/XR
- 5:00 pm Application of System Engineering Methodologies For The Development Of Fuzes
Eric M. Fiore, ATK - Mission Systems Group
- 5:20 pm ADJOURN
- 5:30 pm - 7:00 pm GRAND RECEPTION

AGENDA

THURSDAY, MAY 21, 2009

7:00 am Onsite Registration/Continental Breakfast

OPEN SESSIONS

Session IVA

CHAIR: CURT POWELL ASSISTANT: GABE SOTO

8:00 am High Fuze Reliability Today And In The Future
Frank M. Kienzler, JUNGHANS microtec GmbH

8:20 am Dual Function Fuze DM173 For Cartridge 120mm HE
Martin Leonhardt, JUNGHANS microtech GmbH

8:40 am TDW's New 2-Inch Penetrator Fuze
Dr. Helmut F. Muthig, TDW GmbH

9:00 am A Modular Vision For Future Target Detection Device Technology
Gary Buzzard, Thales Missile Electronics Ltd.

9:20 am Development Of A Hard Target Void Sensing Fuze for High Mechanical Shock Load Applications
Perry A. Salyers, L-3 Fuzing & Ordnance Systems

9:40 am Development of a General Purpose Data Recorder for Very High Mechanical Shock Load Applications
Marc A. Worthington, L-3 Fuzing & Ordnance Systems

10:00 am BREAK

10:20 am Development of Electronic Time Fuze For Self-Propelled Long-Range Howitzer
Seong Hun, Kim, HANWHA Corporation

10:40 am A Robust Planar Triggered Sparkgap Switch for High Power Pulse Applications
Dr. Thomas A. Baginski, Auburn University

11:00 am **TITLE TO BE ADDED**
Randy Martin, Endevco Corporation

11:20 am Piezoelectric Setback Generators For Powering Next Generation Of Smart Fuzing
Dr. Alfredo Vazquez Carazo, MICROMECHATRONICS, INC.

11:40 am Piezoelectric Power Supply For Medium Caliber Ammunition
Hege Jodahl, FFI

12:00 pm LUNCH

US ONLY SESSIONS

Session IVB

CHAIR: TELLY MANOLATOS ASSISTANT: KEN KELLY

8:00 am MEMS Safe And Arm Verge Escapement Mechanism -- Update 2008
Dale L. Spencer, Kaman Precision Products - Fuzing

8:20 am An Integrated Composite Energetics Packaging System (ICEPS) For Insensitive Munition (IM) Fuzing Applications
Dr. Amish Desai, Tanner Research

8:40 am New Generation Miniature LTCC Flyback Transformers
George A. Slama, NASCENTechnology, Inc.

9:00 am Navy MEMS Micro-Detonator Based Fuze
Dr. Daniel L. Jean, Naval Surface Warfare Center - Indian Head Division

9:20 am Demonstration of the Army's MEMS Safe & Arm In A Large Caliber Projectile
Tim Hoang, US Army - ARDEC

9:40 am Enabling Technologies For Miniature Firing Systems
Charles A. Treu, NNSA Kansas City Plant

10:00 am BREAK

10:20 am Low-cost High-Performance Switches For Advanced Fuzing Needs
Charles A. Walker, Sandia National Laboratories

10:40 am KDI EndFire Proximity Sensor
Robert Hertlein, L-3-Fuzing & Ordnance Systems

11:00 am Extremely Insensitive Detonating Substance (EIDS) Initiation System
David A. Olson, Naval Surface Warfare Center - Indian Head Division

11:20 am Design In Safety
Brad Biggs, Raytheon Missile Systems

11:40 am A Distributed Safety And Arming System With Optically Linked Remote Firesets
Ralph E. Balestrieri, Naval Surface Warfare Center - Indian Head Division

12:00 pm LUNCH

OPEN SESSIONSSession VA**CHAIR: FRED PIERING ASSISTANT: DAVE LAWSON**

- 1:00 pm Design And Fabrication Of Small-Sized Radar- Radiometer Sensors With A Single Antenna Configuration in W-Band For Sensor-Fuzed Systems
Dr. Wan-Joo Kim, Agency for Defense Development
- 1:20 pm BGA Technology In High-G Environments
Stephen Redington, PE, US Army - ARDEC
- 1:40 pm Inertial Igniters With Programmable Safety Features For Small Thermal Batteries For Munitions Fuzing
Dr. Jahangir S. Rastegar, Omnitek Partners, LLC
- 2:00 pm MEMS Impact Sensor
Dr. Daniel L. Jean, Naval Surface Warfare Center - Indian Head Division
- 2:20 pm High Voltage Multilayer Ceramic Capacitors For High Pulse Current Applications
John Rogers, Vishay Intertechnology Inc.
- 2:40 pm Hazards Of Inappropriate Fuzing Design
Lars-Erik Pettersson, Life Time Engineering AB
- 3:00 pm BREAK
- 3:20 pm Advances In Thermal Batteries For Fuzing
David E. Harney, Advanced Thermal Batteries, Inc.
- 3:40 pm Variable Acceleration Profiling And Characterization Of S&A Escapement Mechanisms
Dr. Michael A. Deeds, Naval Surface Warfare Center - Indian Head Division
- 4:00 pm MEMS Shock Sensor Field Results Using Alternate Packaging
Robert D. Sill, PCB Piezotronics Inc.
- 4:20 pm Dent Block Acceptance Test Susceptibility
Robert Savoyski, Technical Ordnance, Inc.
- 4:40 pm Intelligent Fuzing For Penetrating Munitions: Experiments And Analysis Of Representative Configurations
Jean-Marc Sibeaud, DGA - Centre d'Etudes de Gramat
- 5:00 pm **OPEN**
- 5:20 pm WRAP-UP AND CONFERENCE ADJOURNED

US ONLY SESSIONSSession VB**CHAIR: BARRY NEYER ASSISTANT: MARTY TANNEHAUS**

- 1:00 pm Design & Evaluation Tools For Exploding Foil Initiators
Lt Timothy A. Ager, US Air Force
- 1:20 pm G Hardened Precision Inertial Measurement By Application And Processing Of Arrays Of MEMS Inertial Sensors – Part Of An Advanced Penetrator Fuze Design
Martin Tanenhaus, JayMart Sensors
- 1:40 pm Distributed Fuzing
Brad Biggs, Raytheon Missile Systems
- 2:00 pm Iron Curtain
Chad Green, Artis, LLC
- 2:20 pm Extended Area Protection & Survivability (EAPS) ATO Fuze & Proximity Sensor
Mark E. Etheridge, US Army - AMRDEC
- 2:40 pm Performance Characterization Of A Lithium Silicon/Iron Disulfide (LiSi/FeS₂) Thermal Battery For Joint Use
Paul F. Schisselbauer, EnerSys Advanced Systems, Power Sources Center
- 3:00 pm BREAK
- 3:20 pm MEMS Fuze For 40mm HEDP Cartridge
Charles Robinson, US Army - ARDEC
- 3:40 pm ARDEC Fuze Activities To Support Shoulder Fired Munition Programs
Lloyd D. Khuc, US Army - ARDEC
- 4:00 pm Hardened Miniature Fuze Technology (HMFT) Progress
Jefferson K. Oliver, Air Force Research Laboratory, Munition Directorate
- 4:20 pm Fuze And Power Army Technology Objective (FAP ATO) – Radio Frequency (RF) And Laser Detection and Ranging (LADAR) Proximity Sensors
Evan A. Young, US Army - ARDEC
- 4:40 pm Hard Target Void Sensing Fuze Progress
Wayne Steege, Alliant Techsystems, Inc.
- 5:00 pm Universal Smart Fuze For Unmanned Aerial Vehicles And Other Remote Armament Systems
Daniel Vo, US Army - ARDEC
- 5:20 pm WRAP-UP AND CONFERENCE ADJOURNED



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DISNEY'S CORONADO SPRINGS RESORT FEATURES:

RESORT RECREATION

- Sand volleyball court
- Health Club and Salon
- Watercraft Rentals
- Bike Rentals
- Jogging Trails
- Nature Trail

RESORT DINING OPTIONS

- The Pepper Market
- Maya Grill
- Cafe Rix
- Rix Lounge
- Laguana Bar



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1100 West Lake Buena Vista Drive
Lake Buena Vista, FL 32830

Tel: (407) 939-1000
Fax: (407) 939-1001

For more information on the *Disney's Coronado Springs* Resort, visit www.disneyconventionears.com/coronado

AIRPORT

Orlando International Airport
1 Airport Boulevard
Orlando, FL 32827

LOCAL GROUND TRANSPORTATION:

Disney's Magical Express Transportation picks you up and takes you from Orlando International Airport to the Resort, while their "hands-free" luggage service delivers your bags from the plane directly to your room. Departing is also a breeze with in-hotel boarding pass service and return shuttle to Orlando International.

Reservations are required. We recommend you make your reservations at least 30 days in advance.

FREQUENTLY ASKED QUESTIONS...

- How do I make a reservation for *Disney's Magical Express Service*?
If you already have confirmed your room reservations, call 1-407-827-6777.
- Can I book transportation upon arrival at the airport?
No. You must book your *Disney's Magical Express* reservation prior to arrival to fully benefit from the service and take advantage of complimentary luggage delivery to your Resort room.
- Where is the pickup location for motor coach transportation at the airport?
You will be directed to the Disney Welcome Center located on Level One in Terminal B.
- What are the hours of operation for the Disney Welcome Center at the airport?
The hours are 6 a.m. to 11 p.m., but those hours will be extended to meet the flights of all guests who have booked *Disney's Magical Express* service, even if a flight is scheduled to arrive after 11 p.m. The Welcome Center will also closely follow arrival information for flights that may be delayed.
- When will my luggage arrive in my room?
Your luggage will be delivered after you check into the resort, however you do not need to be in your room at the time of the delivery. Bellman gratuities have already been covered and are not required from our guests for inbound *Disney's Magical Express* luggage service.

SPONSORSHIP OPPORTUNITIES AVAILABLE

CONTINENTAL BREAKFAST SPONSOR (AVAILABLE TO 2 SPONSORS) - \$7,500

ONE SOLD TO KAMAN PRECISION PRODUCTS

- TWO COMPLIMENTARY SYMPOSIUM REGISTRATIONS
- PLACEMENT OF YOUR COMPANY'S LOGO IN THE AGENDA HANDOUTS AND PROCEEDING
- SIGNAGE OUTSIDE THE PARTICULAR EVENT SPONSORED
- SPONSOR RIBBON ON BADGES

COFFEE AND SODA BREAK SPONSOR (AVAILABLE TO 4 SPONSORS) - \$4,000

ALL SOLD TO L-3 FUZING & ORDNANCE SYSTEMS

LUNCH SPONSOR (AVAILABLE TO 2 SPONSORS) - \$6,000

ONE SOLD TO DSE, INC.

- THREE COMPLIMENTARY SYMPOSIUM REGISTRATIONS
- OPPORTUNITY TO DISTRIBUTE LITERATURE ON A TABLE AT REGISTRATION
- PLACEMENT OF YOUR COMPANY'S LOGO IN THE AGENDA HANDOUTS AND PROCEEDING
- SIGNAGE OUTSIDE THE PARTICULAR EVENT SPONSORED
- SPONSOR RIBBON ON BADGES

RECEPTION SPONSOR (AVAILABLE TO 2 SPONSORS) - \$10,000

ONE SOLD TO ATK

- FOUR COMPLIMENTARY SYMPOSIUM REGISTRATIONS
- OPPORTUNITY TO DISTRIBUTE LITERATURE ON A TABLE AT REGISTRATION
- PLACEMENT OF YOUR COMPANY'S LOGO IN THE AGENDA HANDOUTS AND PROCEEDING
- SIGNAGE OUTSIDE THE PARTICULAR EVENT SPONSORED
- OPPORTUNITY TO GIVE 10-MINUTE COMPANY PRESENTATION AT THE RECEPTION
- SPONSOR RIBBON ON BADGES

GENERAL SESSION MEETING OPENER (AVAILABLE TO 1 SPONSOR) - \$10,000

Disney's version of the Star Spangled Banner is spirit lifting, emotionally charged rendition that will bring the audience to their feet. Originally arranged by renowned composer David Clydesdale for the United States' historic rededication of the Statue of Liberty, this is a unique patriotic experience designed to motivate your group of guests. This is performed live by a professional Disney vocalist, accompanied by a recorded full orchestra, and set against an amazing video backdrop. The presentation concludes with a pyrotechnic display of indoor fireworks.

- FOUR COMPLIMENTARY SYMPOSIUM REGISTRATIONS
- OPPORTUNITY TO DISTRIBUTE LITERATURE ON A TABLE AT REGISTRATION
- PLACEMENT OF YOUR COMPANY'S LOGO IN THE AGENDA HANDOUTS AND PROCEEDING
- SIGNAGE OUTSIDE THE PARTICULAR EVENT SPONSORED
- SPONSOR RIBBON ON BADGES

TRADITIONAL STEEL DRUM ISLAND MUSIC (AVAILABLE TO 1 SPONSOR) - \$2,500

- ONE COMPLIMENTARY SYMPOSIUM REGISTRATION
- PLACEMENT OF YOUR COMPANY'S LOGO IN THE AGENDA HANDOUTS AND PROCEEDING
- SPONSOR RIBBON ON BADGES

JAZZ TRIO (AVAILABLE TO 1 SPONSOR) - \$2,000

- PLACEMENT OF YOUR COMPANY'S LOGO IN THE AGENDA HANDOUTS AND PROCEEDING
- SPONSOR RIBBON ON BADGES

FOR MORE INFORMATION ON SPONSORSHIP OPPORTUNITIES OR TO PURCHASE A SPONSORSHIP, PLEASE CONTACT MICHELLE HARISTON, ASSOCIATE DIRECTOR AT MHARISTON@NDIA.ORG

GENERAL CONFERENCE INFORMATION

ATTENDEE ROSTER:

An attendance roster will be available at the conference registration desk. In order for your name to appear in the roster, you must be registered for this event by May 4, 2009. An updated roster will NOT be printed after the conference.

SPECIAL NEEDS:

NDIA supports the Americans with Disabilities Act of 1990. Attendees with special needs should call or email Michelle Hariston, Associate Director at 703-247-9478 mhariston@ndia.org by May 1, 2009.

US ONLY SESSIONS:

Send citizenship information through JPAS to:

SMO Code: 001745

POC: Janice Crongeyer

Phone: 301-744-4704

If access to JPAS is not available, fax attention to: Janice at 301-744-6406.

NOTE: For confirmation of receipt contact Janice at 301-744-4704 or Robin Potter at 301-744-4667

QUESTIONS?

Please contact Michelle Hariston, Associate Director at (703) 247-9478 or via email at mhariston@ndia.org.

REGISTRATION

NOTE: THERE ARE TWO SEPARATE REGISTRATION PROCESSES. ONE FOR CONFERENCE REGISTRATION AND ONE IF YOU PLAN TO ATTEND US ONLY SESSIONS. ALL CITIZENSHIP INFORMATION SHOULD BE SENT TO JPAS.

ONLINE:

Our preferred method of registration is online. Please go to www.ndia.org/meetings/9560 to register online.

FAX:

Register via fax by completing the Registration Form (PDF) and faxing it to (703) 522-1885. Please do not fax any registrations after May 8, 2009. After this date, please bring your completed registration form with you to the meeting to register on-site or register online.

MAIL:

Registration forms (PDF) may be mailed to: NDIA, Event #9560, 2111 Wilson Blvd., Suite 400, Arlington, VA 22201. Please do not mail any registrations after May 1, 2009. After this date, please bring your completed registration form with you to the meeting to register on-site or register online.

Registrations will not be taken over the phone and payment must be made at the time of registration.

CANCELLATIONS:

Cancellations before 03/20/09 receive a full refund. Cancellations between 03/21/09 - 04/17/09 receive a refund minus a \$75 cancellation fee. No refunds for cancellations received after 04/17/09. Cancellations must be made in writing. Substitutions welcome in lieu of cancellations. Please e-mail your cancellations or substitutions to Michelle Hariston, Associate Director at mhariston@ndia.org.

	EARLY (BEFORE 4/7)	REGULAR	ON-SITE (AFTER 4/28)
GOVERNMENT ACADEMIA/ALLIED GOV.	\$370	\$410	\$450
INDUSTRY NDIA MEMBER	\$520	\$570	\$630
INDUSTRY NON-NDIA MEMBER	\$570	\$630	\$695



National Defense Industrial Association

NATIONAL DEFENSE INDUSTRIAL
ASSOCIATION

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WWW.NDIA.ORG

53rd Annual Fuze Conference

***“Next Generation
Fuzing - Maximum
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**TO REGISTER, VISIT:
WWW.NDIA.ORG/MEETINGS/9560**