

# 2016 INSENSITIVE MUNITIONS & ENERGETIC MATERIALS TECHNOLOGY SYMPOSIUM

Advanced IM / EM Solutions: Minimizing Risk to our Warfighters and Delivering Needed Performance, Security, and Readiness to Address Evolving Threats in our World



SEPTEMBER 12 - 15, 2016

GAYLORD OPRYLAND HOTEL - NASHVILLE, TN

[WWW.NDIA.ORG/MEETINGS/6550](http://WWW.NDIA.ORG/MEETINGS/6550)

## MONDAY, SEPTEMBER 12

4:00 pm - 5:30 pm

**CONFERENCE REGISTRATION AND WELCOME RECEPTION** - Magnolia Courtyard

## TUESDAY, SEPTEMBER 13

7:00 am - 5:00 pm

**CONFERENCE REGISTRATION** - Hermitage Foyer

7:00 am - 8:00 am

**CONTINENTAL BREAKFAST**

8:00 am - 8:10 am

**WELCOME ADDRESS** - Hermitage CD

8:10 am - 8:40 am

**KEYNOTE ADDRESS**

8:40 am - 9:00 am

**IM AWARDS**

*Presenter: Michael Sharp, MSIAC*

9:00 am - 10:20 am

**PLENARY PAPER PRESENTATIONS**

*Session Chair: Mike Ervin, BAE Systems*

9:00 AM	18748	JIMTP STRATEGY AND PATH FORWARD	Mr. Anthony Di Stasio, USA
9:20 AM	18709	MSIAC - REFLECTION ON 25 YEARS SUPPORTING THE MUNITIONS SAFETY COMMUNITY	Dr. Michael Sharp, Belgium
9:40 AM	18770	GRIMEX (GREEN IM EXPLOSIVE): DEVELOPMENT OF NOVEL IM COMP B REPLACEMENTS BASED ON GREEN TNT AND RDX REPLACEMENTS	Dr. David Price, USA
10:00 AM	18778	INSENSITIVE MUNITIONS INDUSTRY CONTRIBUTION FOR STANAG AND AOP IMPROVEMENTS	Mr. Yves Guengant, France

10:20 am - 10:50 am

**NETWORKING BREAK AND POSTER SESSION** - Cheekwood ABC

10:50 am - 12:30 am

**BREAKOUT PRESENTATIONS**

SESSION 2A - TESTING I		ROOM: HERMITAGE C	SESSION CHAIR: KEN GRAHAM
10:50 AM	18758	HIGH PERFORMANCE PROPELLANT FRAGMENT IMPACT TESTING: SMALL-SCALE AND FULL-SCALE	Dr. Eric Harstad, USA
11:10 AM	18829	PARAMETERS INFLUENCING THE RESPONSE OF MSP-1 PROPELLANT SUBJECT TO FRAGMENT IMPACT	Dr. Mark Pfeil, USA
11:30 AM	18724	SMALL SCALE FRAGMENT ATTACK TESTING ON THE LMM MISSILE BOOST MOTOR AND THE INFLUENCE OF THE CONDUIT FORM ON XDT THRESHOLD	Mr. Stephen Holden, UK
11:50 AM	18787	EXPLOSIVENESS TESTING OF PRESSED PBX	Mr. Philip Cheese, UK
12:10 AM	18788	HEAVY FRAGMENT IMPACT TESTING OF PBX FILLED BOMBS AND SHAPED CHARGES	Mr. Nathan White, UK

SESSION 2B - FORMULATIONS I		ROOM: HERMITAGE D	SESSION CHAIR: STEVE NICOLICH
10:50 AM	18813	FORMULATION AND TESTING OF GAGTFA BASED EXPLOSIVES	Mr. Michael Adams, USA
11:10 AM	18769	EVALUATION OF ARLX-4201 AS THE M1156 (NA29) PGK FUZE BOOSTER FORMULATION FOR THE 155 MM PROJECTILE	Dr. Thuvan Piehler, USA
11:30 AM	18761	INSENSITIVE MUNITIONS – DEVELOPMENT AND QUALIFICATION OF NEW MELT-CAST FORMULATIONS	Mr. Øyvind Johansen, Norway
11:50 AM	18805	THE PATH FORWARD FOR ALUMINIZED PRNQ FORMULATIONS	Dr. Eric Bukowski, USA
12:10 AM	18791	REDUCED SENSITIVITY LX-14 MAIN CHARGE	Mr. Brian Alexander, USA

12:30 am - 1:50 pm

**LUNCH** - Old Hickory

1:50 pm - 3:10 pm

**BREAKOUT PRESENTATIONS**

SESSION 3A - SLOW COOK-OFF		ROOM: HERMITAGE C	SESSION CHAIR: GERT SCHOLTES
1:50 PM	18741	U.S. SLOW COOK-OFF CONSORTIUM	Dr. Heather Hayden, USA
2:10 PM	18808	AN APPROACH TO SIMULATE THE COOK-OFF RESPONSE OF LARGE MUNITIONS USING SMALL SCALE TESTS AND ANALYSIS	Dr. N. Albert Moussa, USA
2:30 PM	18814	THERMAL MODELING OF SLOW COOK-OFF RESPONSES	Dr. Markus Graswald, Germany
2:50 PM	SLOW COOK-OFF OPEN DISCUSSION		Mr. Gert Scholtes, Netherlands

SESSION 3B - ENERGETIC MATERIALS I		ROOM: HERMITAGE D	SESSION CHAIR: ROY KELLY
1:50 PM	18729	CHARACTERIZATION OF 1-PROPYL-2-NITROGUANIDINE (PRNQ)	Mr. Philip Samuels, USA
2:10 PM	18767	INFUSE™ NITROCELLULOSE: A NEW APPROACH TO GUN PROPELLANT TECHNOLOGY	Dr. Stephen Velarde, USA
2:30 PM	18719	COMPATIBILITY INVESTIGATIONS ON NOVEL ENERGETIC FORMULATIONS OF NITROGEN RICH AZOLE [BISTETRAZOLYLAMINE(BTA)]	Dr. Nimesh Sasidharan, Singapore
2:50 PM	18780	HIGH TEMPERATURE EXPLOSIVES FOR THE FUTURE	Dr. Sarah Headrick, USA

3:10 pm - 3:30 pm

**NETWORKING BREAK AND POSTER SESSION - Cheekwood ABC**

3:30 pm - 5:10 pm

**BREAKOUT PRESENTATIONS**

SESSION 4A - POLICY		ROOM: HERMITAGE C	SESSION CHAIR: EMMANUEL SCHULTZ
3:30 PM	18718	NAVY INSENSITIVE MUNITIONS (IM) PROGRAM PLANNING AND EXECUTION	Mr. Donald Porada, USA
3:50 PM	18720	BENEFITS OF INSENSITIVE MUNITIONS ON STORAGE AND OPERATIONS	Mr. Benjamin Keefe, Belgium
4:10 PM	18725	CHANGES TO NATO IM POLICY AND FULL SCALE TESTING DOCUMENTS	Mr. Florian Pechoux, France
4:30 PM	18816	MSIAC AUDIT PROCEDURE OF DGA MISSILE TESTING	Mr. Florian Pechoux, France
4:50 PM	18821	ARDEC GUN PROPULSION SCIENCE & TECHNOLOGIES OF INTEREST	Mr. Elbert Caravaca, USA

SESSION 4B - PROCESSING I		ROOM: HERMITAGE D	SESSION CHAIR: SARAH HEADRICK
3:30 PM	18753	QUALIFICATION OF GRANULAR IMX-104	Mr. Keyur Patel, USA
3:50 PM	18789	PILOT PLANT DEMONSTRATION OF A ONE-POT DEMN PROCESS	Dr. Stephen Velarde, USA
4:10 PM	2016-3	GRANULAR IMX-104 IMPROVED MANUFACTURING	Ms. Xueling Zhao, USA
4:30 PM	2016-4	DEMN X "ONE-POT" LOADING METHOD	Mr. Eric Boykin, USA

5:10 pm

**SESSIONS ADJOURN**

5:30 pm - 7:00 pm

**SYMPOSIUM RECEPTION - Waters Edge**

**WEDNESDAY, SEPTEMBER 14**

7:30 am - 11:30 am

**CONFERENCE REGISTRATION - Hermitage Foyer**

7:30 am - 8:30 am

**CONTINENTAL BREAKFAST**

**8:30 am - 10:10 am****BREAKOUT PRESENTATIONS**

SESSION 5A - FAST COOK-OFF		ROOM: HERMITAGE C	SESSION CHAIR: TOM SWIERK
8:30 AM	18708	TURNING UP THE HEAT: SCIENCE OF COOKOFF WORKSHOP FINDINGS	Dr. Matthew Andrews, Belgium
8:50 AM	18747	ATMOSPHERIC MEASUREMENTS IN PROPANE AND LIQUID-POOL FAST COOK OFF FIRES	Dr. David Hubble, USA
9:10 AM	18766	INVESTIGATION OF A POSSIBLE FUEL FIRE ALTERNATIVE: RADIATIVE PANELS	Mr. Julien Moriceau, France
9:30 AM	18784	EFFECT OF ITEM BLOCKAGE IN FAST COOK OFF FIRES	Dr. Jon Yagla, USA
9:50 AM	18820	CALIBRATION OF A PROPANE FAST HEATING BURNER USED TO TEST LARGE ORDNANCE ITEMS	Dr. Ephraim Washburn, USA

SESSION 5B - ENERGETICS AND STANDARDS		ROOM: HERMITAGE D	SESSION CHAIR: WERNER ARNOLD
8:30 AM	18775	REVIEW AND UPDATE OF STANAG 4526 SHAPED CHARGE JET, MUNITIONS TEST PROCEDURE	Dr. Brian Fuchs, USA
8:50 AM	18715	PROJECTION CRITERIA FOR INSENSITIVE MUNITIONS AND HAZARD CLASSIFICATION	Dr. Ernie Baker, USA
9:10 AM	18735	INSENSITIVE MUNITIONS TYPE IV LETHAL FRAGMENT PROJECTION ENERGY THRESHOLD	Mr. Daniel Pudlak, USA
9:30 AM	18754	PREPARATION AND CHARACTERIZATION OF NANOSTRUCTURED COMPOSITION B	Dr. Hongwei Qiu, USA
9:50 AM	18687	PARTICLE SIZE EFFECTS ON THE INITIATION CHARACTERISTICS OF DIAMINOAZOXYFURAZAN (DAAF)	Ms. Elizabeth Francois, USA

**10:10 am - 10:30 am****NETWORKING BREAK AND POSTER SESSION - Hermitage AB****10:30 am - 11:50 am****BREAKOUT PRESENTATIONS**

SESSION 6A - TESTING II		ROOM: HERMITAGE C	SESSION CHAIR: ERNIE BAKER
10:30 AM	18825	A SERIES OF BKN03 NITROCELLULOSE BASED LOW SENSITIVITY IGNITERS WITH VARYING IGNITION CHARACTERISTICS	Dr. Eugene Rozumov, USA
10:50 AM	18743	INSENSITIVE 120 MM MORTAR BOMB	Mr. Christophe Coulouarn, France
11:10 AM	18736	FRAGMENT BREAK-UP INVESTIGATION	Mr. Daniel Pudlak, USA

SESSION 6B - PROCESSING II		ROOM: HERMITAGE D	SESSION CHAIR: BRAD SLEADD
10:30 AM	18799	SCALE-UP AND ANALYSIS OF TAGMNT	Dr. Victor Rendina, USA
10:50 AM	18807	DESIGN CONSIDERATIONS FOR AUTOMATED MANUFACTURING SYSTEMS FOR PRIMARY EXPLOSIVES AND MILITARY PYROTECHNICS	Mr. Charles Sturdivant, USA
11:10 AM	18745	IMPLEMENTATION OF XF@PREMIX ON TRADITIONAL MELT-CAST EQUIPMENT: MECAR WORKSHOP FOR INSENSITIVE AMMUNITION	Mr. David Struyve, Belgium
11:30 AM	18723	ORDERED CRYSTAL ASSEMBLY OF ULTRAFINE EXPLOSIVE PARTICLES AND THEIR SENSITIVITY PERFORMANCE	Dr. Zhijian Yang, China

**11:50 am****ADJOURN FOR THE DAY****THURSDAY, SEPTEMBER 15****7:00 am - 10:00 am****CONFERENCE REGISTRATION - Hermitage Foyer****7:00 am - 8:00 am****CONTINENTAL BREAKFAST**

**8:00 am - 9:40 am****BREAKOUT PRESENTATIONS**

SESSION 7A - MITIGATION AND TESTING		ROOM: HERMITAGE C	SESSION CHAIR: WADE BABCOCK
8:00 AM	18705	INSENSITIVE MUNITIONS (IM) AND HAZARD CLASSIFICATION (HC) TESTING GUIDANCE AND INTEGRATION	Mr. Ken Tomasello, USA
8:20 AM	18710	MITIGATION TECHNIQUES FOR MUNITIONS – EASY ACCESS ONLINE!	Mr. Emmanuel Schultz, Belgium
8:40 AM	18740	FRAGMENT IMPACT MITIGATION THROUGH SHOCK-INDUCED THREAT DAMAGE	Mr. Michael Steinberg, USA
9:00 AM	18763	SHOCK SENSITIVITY TESTING OF 3(5),4-DINITROPYRAZOLE	Dr. Janis Ritums, Sweden
9:20 AM	18765	FAST COOK-OFF MODELS AND EXPERIMENTS WITH ROCKET MOTORS IN MISSILE LAUNCHER CANISTERS	Dr. Jon Yagla, USA

SESSION 7B - SYNTHESIS		ROOM: HERMITAGE D	SESSION CHAIR: RON HOLLANDS
8:00 AM	18796	DEVELOPMENT AND TESTING OF 3,4 DNP	Dr. Jacob Morris, USA
8:20 AM	18798	LABORATORY AND PILOT SCALE SYNTHESIS OF LLM 105	Mr. James Phillips, USA
8:40 AM	18803	SYNTHESIS OF NEW ENERGETIC BINDERS DERIVED FROM ADIOL	Dr. Melissa Mileham, USA
9:00 AM	18830	SYNTHESIS AND CHARACTERIZATION OF NEW ISOXAZOLE-BASED ENERGETIC MATERIALS	Dr. Pablo Guzman, USA
9:20 AM	18797	PROCESS DEVELOPMENT AND SCALE-UP OF MDNT	Dr. Jacob Morris, USA

**9:40 am - 10:00 am      NETWORKING BREAK AND POSTER SESSION - Hermitage AB****10:00 am - 11:40 am      BREAKOUT PRESENTATIONS**

SESSION 8A - SYSTEMS I		ROOM: HERMITAGE C	SESSION CHAIR: KAT HUNT
10:00 AM	18689	USE OF PACKAGING METHODOLOGIES AND INNOVATIVE MATERIALS TO PREVENT INADVERTENT REACTION OF CONTAINERIZED NAVAL ORDNANCE	Mr. Robert Van Schaack, USA
10:20 AM	18785	MITIGATION DEVICE FOR NEXT GENERATION MEDIUM CALIBER AMMUNITION	Mr. Nicolas Bruno, Argentina
10:40 AM	18733	ONE POINT SAFE EXPLOSIVE CHARGE	Dr. Eamon Colclough, UK
11:00 AM	18727	EVALUATION OF THE 90MM MK8 HEP AMMUNITION FILLED WITH IM P16945 EXPLOSIVE COMPOSITION	Mr. David Struyve, Belgium
11:20 AM	18801	IM & FHC RESULTS FOR 105MM M1130 CARTRIDGE WITH XM350 PROPELLING CHARGE	Mr. Charlie Patel, USA

SESSION 8B - ENERGETIC MATERIALS II		ROOM: HERMITAGE D	SESSION CHAIR: PAUL BRAITHWAITE
10:00 AM	18810	NITROISOBUTANETRINITRATE (NIBTN): A POTENTIAL NG REPLACEMENT PLASTICIZER	Dr. Alexander Paraskos, USA
10:20 AM	18794	ALTERNATIVE WAXES FOR COMPOSITION B	Mr. Myles Donegan, USA
10:40 AM	0000	ENGINEERING LEVEL IM TEST RESULTS FOR 155MM EXTENDED RANGE XM1128 HE PROJECTILE	Mr. Keyur Patel, USA
11:00 AM	18730	CHARACTERIZATION OF DNAM (DINITRAMINO MELAMINE)	Mr. Philip Samuels, USA
11:20 AM	18751	AMORPHOUS ENERGETICS	Dr. Rajen Patel, USA

**11:40 am - 1:00 pm****LUNCH - Old Hickory**



1:00 pm - 2:40 pm

**BREAKOUT PRESENTATIONS**

SESSION 9A - MODELING		ROOM: HERMITAGE C	SESSION CHAIR: MELISSA MILEHAM
1:00 PM	18734	ON THE WAY TO A UNIFIED INITIATION MODEL	Mr. Werner Arnold, Germany
1:20 PM	18759	COMPOSITE MATERIAL MODELING FOR FRAGMENT IMPACT	Mr. Matt Triplett, USA
1:40 PM	18774	HRVM - A NUMERICAL TOOL TO ENHANCE THE REACTION VIOLENCE PREDICTION OF AMMUNITION UNDER MECHANICAL THREAT	Mr. Julien Moriceau, France
2:00 PM	18757	COMPUTATIONAL ENERGY FLUENCE VISUALIZATION AND PREDICTION OF WARHEAD RESPONSE WITH COMPARISON TO INSENSITIVE MUNITION FRAGMENT IMPACT TESTS	Mr. Benjamin Blazek, USA
2:20 PM	18707	CONSOLIDATED GUIDE TO MATERIAL PARAMETERS NEEDED FOR IM MODELING AND SIMULATION EFFORTS	Mr. Wade Babcock, Belgium

SESSION 9B - PROPELLANTS		ROOM: HERMITAGE D	SESSION CHAIR: JAMIE NEIDERT
1:00 PM	18717	DEVELOPMENT OF INSENSITIVE MUNITIONS (IM) THERMOPLASTIC ELASTOMER (TPE) PROPELLANTS FOR LARGE CALIBRE GUN SYSTEMS	Dr. Mark Penny, UK
1:20 PM	18731	A NEW GENERATION OF MINIMUM SMOKE PROPELLANTS FOR TACTICAL MISSILE PROPULSION	Mr. Eirik Loekke, Norway
1:40 PM	18755	MAKING PROGRESS TOWARDS GREEN PROPELLANTS	Dr. Rowan Dobson, France
2:00 PM	18686	EFFECTS OF LONG-TERM AGEING ON SMALL AND MEDIUM CALIBRE PROPELLANTS	Mr. Beat Vogelsanger, Switzerland
2:20 PM	18706	HIGH PERFORMANCE PROPULSION INSENSITIVE MUNITIONS TECHNOLOGY GOALS AND GAPS	Mr. Stuart Blashill, USA

2:40 pm - 3:00 pm

**NETWORKING BREAK AND POSTER SESSION - Hermitage AB**

3:00 pm - 4:20 pm

**BREAKOUT PRESENTATIONS**

SESSION 10A - SYSTEMS II		ROOM: HERMITAGE C	SESSION CHAIR: STEPHEN STRUCK
3:00 PM	18786	NATO WORKING GROUP ON IM AND HAZARD CLASSIFICATION REQUIREMENTS, ASSESSMENT AND RISK	Mr. Philip Cheese, UK
3:20 PM	18800	IMPACT AND COOK-OFF MITIGATION APPROACH FOR THE 105MM ARTILLERY PROPULSION SYSTEM	Mr. Charlie Patel, USA
3:40 PM	18726	IM AND LETHALITY PERFORMANCE OF 81MM IHE MORTAR BOMBS FILLED WITH DIFFERENT INSENSITIVE EXPLOSIVES	Mr. Jackie Sibeko, South Africa
4:00 PM	2016-1	IM ENERGETICS DEVELOPMENT INTO NEW LEGACY WEAPON SYSTEMS: PM PERSPECTIVE AND LESSONS LEARNED	Mr. Daniel Zaloga, USA

SESSION 10B - PROCESSING III		ROOM: HERMITAGE D	SESSION CHAIR: MELISSA HOBBS
3:00 PM	18776	CONTROLLING COMPOSITION C-4 PROCESSING PARAMETERS AND PHYSICAL PROPERTIES OF INPUT COMPONENTS TO PREDICT ENERGY OUTPUT PERFORMANCE RESULTS OF M112 DEMOLITION CHARGES	Dr. Jeremy Headrick, USA
3:20 PM	18721	REACHING A CONTINUOUS PROPELLANT PRODUCTION PROCESS	Mr. Erik Tunestal, Sweden
3:40 PM	18806	MANUFACTURING PROCESS TECHNOLOGY FOR EXPLOSIVE PBXIH-18	Dr. Erica Lotspeich, USA
4:00 PM	18793	EXPLOSIVES COATING VIA ADVANCED CLUSTER ENERGETICS (ACETM) FLUID ENERGY MILL	Mr. Brian Alexander, USA

4:20 pm

**CLOSING REMARKS & POSTER AWARDS PRESENTATION - Hermitage AB**

*Mike Ervin, BAE Systems*  
*Ken Graham, Aerojet Rocketdyne*

5:00 pm

**CONFERENCE ADJOURNS**

*Photography and audio video recordings are prohibited.*

ABSTRACT	TITLE	AUTHOR	SESSION
18686	EFFECTS OF LONG-TERM AGEING ON SMALL AND MEDIUM CALIBRE PROPELLANTS	VOGELSANGER	9B
18687	PARTICLE SIZE EFFECTS ON THE INITIATION CHARACTERISTICS OF DIAMINOAZOXYFURAZAN (DAAF)	FRANCOIS	5B
18689	USE OF PACKAGING METHODOLOGIES AND INNOVATIVE MATERIALS TO PREVENT INADVERTENT REACTION OF CONTAINERIZED NAVAL ORDNANCE	VAN SCHAACK	8A
18699	NEW M 67/SFG 75 IM HAND GRENADES	VEKSLER	POSTER
18705	INSENSITIVE MUNITIONS (IM) AND HAZARD CLASSIFICATION (HC) TESTING GUIDANCE AND INTEGRATION	TOMASELLO	7A
18706	HIGH PERFORMANCE PROPULSION INSENSITIVE MUNITIONS TECHNOLOGY GOALS AND GAPS	BLASHILL	9B
18707	CONSOLIDATED GUIDE TO MATERIAL PARAMETERS NEEDED FOR IM MODELING AND SIMULATION EFFORTS	BABCOCK	9A
18708	TURNING UP THE HEAT: SCIENCE OF COOKOFF WORKSHOP FINDINGS	ANDREWS	5A
18709	MSIAC - REFLECTION ON 25 YEARS SUPPORTING THE MUNITIONS SAFETY COMMUNITY	SHARP	PLENARY
18710	MITIGATION TECHNIQUES FOR MUNITIONS – EASY ACCESS ONLINE!	SCHULTZ	7A
18715	PROJECTION CRITERIA FOR INSENSITIVE MUNITIONS AND HAZARD CLASSIFICATION	BAKER	5B
18717	DEVELOPMENT OF INSENSITIVE MUNITIONS (IM) THERMOPLASTIC ELASTOMER (TPE) PROPELLANTS FOR LARGE CALIBRE GUN SYSTEMS	PENNY	9B
18718	NAVY INSENSITIVE MUNITIONS (IM) PROGRAM PLANNING AND EXECUTION	PORADA	4A
18719	COMPATIBILITY INVESTIGATIONS ON NOVEL ENERGETIC FORMULATIONS OF NITROGEN RICH AZOLE [BISTETRAZOLYLAMINE(BTA)]	SASIDHARAN	3B
18720	BENEFITS OF INSENSITIVE MUNITIONS ON STORAGE AND OPERATIONS	KEEFE	4A
18721	REACHING A CONTINUOUS PROPELLANT PRODUCTION PROCESS	TUNESTÁL	10B
18723	ORDERED CRYSTAL ASSEMBLY OF ULTRAFINE EXPLOSIVE PARTICLES AND THEIR SENSITIVITY PERFORMANCE	YANG	6B
18724	SMALL SCALE FRAGMENT ATTACK TESTING ON THE LMM MISSILE BOOST MOTOR AND THE INFLUENCE OF THE CONDUIT FORM ON XDT THRESHOLD	HOLDEN	2A
18725	CHANGES TO NATO IM POLICY AND FULL SCALE TESTING DOCUMENTS	PECHOUX	4A
18726	IM AND LETHALITY PERFORMANCE OF 81MM IHE MORTAR BOMBS FILLED WITH DIFFERENT INSENSITIVE EXPLOSIVES	SIBEKO	10A
18727	EVALUATION OF THE 90MM MK8 HEP AMMUNITION FILLED WITH IM P16945 EXPLOSIVE COMPOSITION	STRUYVE	8A
18729	CHARACTERIZATION OF 1-PROPYL-2-NITROGUANIDINE (PRNQ)	SAMUELS	3B
18730	CHARACTERIZATION OF DNAM (DINITRAMINO MELAMINE)	SAMUELS	8B
18731	A NEW GENERATION OF MINIMUM SMOKE PROPELLANTS FOR TACTICAL MISSILE PROPULSION	LOEKKE	9B
18733	ONE POINT SAFE EXPLOSIVE CHARGE	COLCLOUGH	8A
18734	ON THE WAY TO A UNIFIED INITIATION MODEL	ARNOLD	9A
18735	INSENSITIVE MUNITIONS TYPE IV LETHAL FRAGMENT PROJECTION ENERGY THRESHOLD	PUDLAK	5B
18736	FRAGMENT BREAK-UP INVESTIGATION	PUDLAK	6A
18740	FRAGMENT IMPACT MITIGATION THROUGH SHOCK-INDUCED THREAT DAMAGE	STEINBERG	7A
18741	U.S. SLOW COOK-OFF CONSORTIUM	HAYDEN	3A
18743	INSENSITIVE 120 MM MORTAR BOMB	COULOUARN	6A

ABSTRACT	TITLE	AUTHOR	SESSION
18744	HISTORY OF IM AMMUNITION DEVELOPED AT NEXTER MUNITIONS, CHALLENGES FOR THE FUTURE	AUMASSON	POSTER
18745	IMPLEMENTATION OF XF@PREMIX ON TRADITIONAL MELT-CAST EQUIPMENT: MECAR WORKSHOP FOR INSENSITIVE AMMUNITION	STRUYVE	6B
18747	ATMOSPHERIC MEASUREMENTS IN PROPANE AND LIQUID-POOL FAST COOK OFF FIRES	HUBBLE	5A
18748	JIMTP STRATEGY AND PATH FORWARD	DI STASIO	PLENARY
18751	AMORPHOUS ENERGETICS	R. PATEL	8B
18753	QUALIFICATION OF GRANULAR IMX-104	K. PATEL	4B
18754	PREPARATION AND CHARACTERIZATION OF NANOSTRUCTURED COMPOSITION B	QIU	5B
18755	MAKING PROGRESS TOWARDS GREEN PROPELLANTS	DOBSON	9B
18757	COMPUTATIONAL ENERGY FLUENCE VISUALIZATION AND PREDICTION OF WARHEAD RESPONSE WITH COMPARISON TO INSENSITIVE MUNITION FRAGMENT IMPACT TESTS	BLAZEK	9A
18758	HIGH PERFORMANCE PROPELLANT FRAGMENT IMPACT TESTING: SMALL-SCALE AND FULL-SCALE	HARSTAD	2A
18759	COMPOSITE MATERIAL MODELING FOR FRAGMENT IMPACT	TRIPLETT	9A
18760	EFFECT OF OXIDISER CRYSTAL QUALITY ON SENSITIVITY OF NTO/RDX AND RDX BASED EXPLOSIVES	LEE	POSTER
18761	INSENSITIVE MUNITIONS – DEVELOPMENT AND QUALIFICATION OF NEW MELT-CAST FORMULATIONS	JOHANSEN	2B
18763	SHOCK SENSITIVITY TESTING OF 3(5),4-DINITROPYRAZOLE	RITUMS	7A
18764	NUMERICAL INVESTIGATION ON ENERGETIC FILLER SUBSTITUTION BY ALUMINIUM TO INCREASE AIR BLAST EFFECTS AND MAINTAIN SHAPED CHARGE EFFECTS	MORICEAU	POSTER
18765	FAST COOK-OFF MODELS AND EXPERIMENTS WITH ROCKET MOTORS IN MISSILE LAUNCHER CANISTERS	YAGLA	7A
18766	INVESTIGATION OF A POSSIBLE FUEL FIRE ALTERNATIVE: RADIATIVE PANELS	MORICEAU	5A
18767	INFUSE™ NITROCELLULOSE: A NEW APPROACH TO GUN PROPELLANT TECHNOLOGY	VELARDE	3B
18769	EVALUATION OF ARLX-4201 AS THE M1156 (NA29) PGK FUZE BOOSTER FORMULATION FOR THE 155 MM PROJECTILE	PIEHLER	2B
18770	GRIMEX (GREEN IM EXPLOSIVE): DEVELOPMENT OF NOVEL IM COMP B REPLACEMENTS BASED ON GREEN TNT AND RDX REPLACEMENTS	PRICE	PLENARY
18774	HRVM - A NUMERICAL TOOL TO ENHANCE THE REACTION VIOLENCE PREDICTION OF AMMUNITION UNDER MECHANICAL THREAT	MORICEAU	9A
18775	REVIEW AND UPDATE OF STANAG 4526 SHAPED CHARGE JET, MUNITIONS TEST PROCEDURE	FUCHS	5B
18776	CONTROLLING COMPOSITION C-4 PROCESSING PARAMETERS AND PHYSICAL PROPERTIES OF INPUT COMPONENTS TO PREDICT ENERGY OUTPUT PERFORMANCE RESULTS OF M112 DEMOLITION CHARGES	J. HEADRICK	10B
18778	INSENSITIVE MUNITIONS INDUSTRY CONTRIBUTION FOR STANAG AND AOP IMPROVEMENTS	GUENGANT	PLENARY & POSTER
18780	HIGH TEMPERATURE EXPLOSIVES FOR THE FUTURE	S. HEADRICK	3B
18781	AN INEXPENSIVE DETONATOR FOR SMART AND INNESITIVE MUNITIONS	SCHOLTES	POSTER
18783	DEFLAGRATION INCIDENT DURING PROPELLANT DRYING INVESTIGATION, REBUILD AND RECOVERY	POWELL	POSTER
18784	EFFECT OF ITEM BLOCKAGE IN FAST COOK OFF FIRES	YAGLA	5A
18785	MITIGATION DEVICE FOR NEXT GENERATION MEDIUM CALIBER AMMUNITION	BRUNO	8A
18786	NATO WORKING GROUP ON IM AND HAZARD CLASSIFICATION REQUIREMENTS, ASSESSMENT AND RISK	CHEESE	10A
18787	EXPLOSIVENESS TESTING OF PRESSED PBX	CHEESE	2A



ABSTRACT	TITLE	AUTHOR	SESSION
18788	HEAVY FRAGMENT IMPACT TESTING OF PBX FILLED BOMBS AND SHAPED CHARGES	WHITE	2A
18789	PILOT PLANT DEMONSTRATION OF A ONE-POT DEMN PROCESS	VELARDE	4B
18791	REDUCED SENSITIVITY LX-14 MAIN CHARGE	ALEXANDER	2B
18793	EXPLOSIVES COATING VIA ADVANCED CLUSTER ENERGETICS (ACETM) FLUID ENERGY MILL	ALEXANDER	10B
18794	ALTERNATIVE WAXES FOR COMPOSITION B	DONEGAN	8B
18796	DEVELOPMENT AND TESTING OF 3,4 DNP	MORRIS	7B
18797	PROCESS DEVELOPMENT AND SCALE-UP OF MDNT	MORRIS	7B
18798	LABORATORY AND PILOT SCALE SYNTHESIS OF LLM 105	PHILLIPS	7B
18799	SCALE-UP AND ANALYSIS OF TAGMNT	RENDINA	6B
18800	IMPACT AND COOK-OFF MITIGATION APPROACH FOR THE 105MM ARTILLERY PROPULSION SYSTEM	C. PATEL	10A
18801	IM & FHC RESULTS FOR 105MM M1130 CARTRIDGE WITH XM350 PROPELLING CHARGE	C. PATEL	8A
18803	SYNTHESIS OF NEW ENERGETIC BINDERS DERIVED FROM ADIOL	MILEHAM	7B
18805	THE PATH FORWARD FOR ALUMINIZED PRNQ FORMULATIONS	BUKOWSKI	2B
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ABSTRACT	TITLE	AUTHOR	SESSION
2016-6	FABRICATION AND PERFORMANCE OF A MEMS-BASED INTEGRATED EXPLODING FOIL INITIATOR	FANG	POSTER
	JOINT INSENSITIVE MUNITIONS TECHNOLOGY PROGRAM HIGH PERFORMANCE PROPULSION	DI STASIO	POSTER
	JOINT INSENSITIVE MUNITIONS TECHNOLOGY PROGRAM MINIMUM SIGNATURE PROPULSION	DI STASIO	POSTER
	JOINT INSENSITIVE MUNITIONS TECHNOLOGY PROGRAM BLAST FRAGMENTING WARHEADS	DI STASIO	POSTER
	JOINT INSENSITIVE MUNITIONS TECHNOLOGY PROGRAM ANTI-ARMOR WARHEADS	DI STASIO	POSTER
	JOINT INSENSITIVE MUNITIONS TECHNOLOGY PROGRAM GUN PROPULSION	DI STASIO	POSTER
	EFFECTS OF EXPLOSIVES AGEING ON MUNITION RESPONSE TO IM THREATS	IMEMG	POSTER
	AN IMEMG APPROACH TO OPTIMISE IM SIGNATURE SPECIFICATION: ASSIM PROGRESS	IMEMG	POSTER
	HARMONIZATION AND IMPROVEMENTS TO FAST HEATING TEST PROCEDURES	IMEMG	POSTER
0000	ENGINEERING LEVEL IM TEST RESULTS FOR 155MM EXTENDED RANGE XM1128 HE PROJECTILE	K. PATEL	8B



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