

ORAL PRESENTATIONS

<u>Presenter/Author</u>	<u>Organization/Contact</u>	<u>Abstract Title</u>
Lozano, Eduardo	Colorado School of Mines, AXPRO Group	Characterization of ANFO using Aquarium Test and Numerical Modeling Methods
Blair, Lisa	Cranfield University	Metal-organic Fireworks: MOFs are Integrated Structural Scaffolds for Pyrotechnic Materials
Spitzer, Denis	NS3E Research Laboratory	Continuous and Reactive Nanocrystallisation: New Concepts and New Processes to Design Energetic Materials for Technological Breakthrough
Yang, Zhijian	China Academy of Engineering Physics	New Strategies for Reducing the Mechanical Sensitivity of CL-20 with Reserved High Energy
Kelly, David	Defence Research and Development Canada	The Performance Modification of Aluminum Nanothermites using Resonant Acoustic Mixing
Meuken, Denise	TNO	Proof of Concept Novel Low Toxicity Obscurant
Salan, Jerry	Nalas Engineering Services, Inc.	Engineering Next-Generation Green Pyrotechnics
Son, Steve	Purdue University	Engineered Particles for Improved Propellants and Their Characterization
Oyler, Karl	U.S. Army RDECOM-ARDEC	Lead-Free Primary Explosives Development and Beyond
Di Stasio, Anthony	Joint Insensitive Munitions Technology Program	Insensitive Munitions
Klapotke, Thomas	University of Munich	Synthesis and Investigation of the Novel Thermally Stable Explosive: TKX-55
Griffiths, Trevor	QinetiQ	The Properties of Pyrotechnic Compositions Based on Boron and Bismuth Trioxide
Gluck, Johann	University of Munich	Improved Blue and Green Colored Pyrotechnical Smoke Formulations
Bohn, Manfred	Fraunhofer-Institute fuer Chemische Technologie (ICT)	Modelling of Measurement Data on the Curing Reaction of HTPB with Isocyanate Obtained by Heat Flow Microcalorimetry and Pressure Decrease in Closed Vessel Cells
Miklaszewski, Eric	Naval Surface Warfare Center - Crane	Electromagnetic Amplification of Pyrotechnic Emissions
Weiser, Volker	Fraunhofer-Institute fuer Chemische Technologie (ICT)	Potential of B/KDN as Igniter Composition Compared to B/KNO ₃

Smit, Ken	WCSD DSTO Edinburgh	A New Technique for Making Pyrotechnics
Rusan, Magdalena	University of Munich	Blue-Colored Pyrotechnics using Copper (I) Bromide as Emitter
Shaw, Anthony	U.S. Army RDECOM-ARDEC	Thermodynamic Modeling for the Characterization and Development of Pyrotechnic Smoke Formulations
Johnson, Nicholas	QinetiQ	Development of a Heat Flux Measurement Technique to Aid Understanding of Ignition of Pyrotechnics and Propellants
Csernica, Christopher	U.S. Army RDECOM-ARDEC	Tracer Conundrum: Achieving Longer Range with Less Pyrotechnic Charge
Sutherland, Gerrit	U.S. Army Research Laboratory	Simulations of the DAXUMM and AXEUMM Experiments
Kim, Zaeill	Agency for Defense Development	Functional Reliability Prediction of Pyrotechnic Separation Device
Zoellner, Helmut	DynITEC GmbH	A Fast Low-Energy Optical Detonator
Tichapondwa, Shepherd	University of Pretoria	Si-BaSO ₄ vs. Si-CaSO ₄ Pyrotechnic Time Delay Compositions: The Effect of Fuel Particle Size and Additives on Reactivity
Morris, Lauren	Picatinny Arsenal	Processing of Milled Aluminum, Silicon, and Aluminum-Silicon Nanocomposites for Pyrotechnic Applications
Eck, William	Aberdeen Proving Ground	Toxicological Evaluation of Periodate as a Replacement for Perchlorate
Hartmann, Marco	AKTS AG	Simulation of Deterrent Concentration Decrease at the Surface and its Influence on Propellant Properties
Wixom, Ryan	Sandia National Laboratories	Quantitative Microstructural Characterization of Ammonium Perchlorate Based Propellant Formulations
Focke, Walter	University of Pretoria	The Burning Rate of Mn + MnO ₂ and Mn + Sb ₂ O ₃ Delay Compositions
Knapp, Sebastian	Fraunhofer-Institute fuer Chemische Technologie (ICT)	Emission Spectroscopy on Pyrotechnic Mixtures
Timms, Robert	University of East Anglia	A Two-Dimensional Model for Melting and Ignition of a Thin Sheared Viscous Layer
Curtis, John	AWE Plc	Modelling the Ignition of Explosives by Pinch with the HERMES Model
Date, Shingo	National Defense Academy	Estimation of Burning Mechanism of Some Azodicarbonamide/Ammonium Nitrate/Copper (II) Oxide Mixtures

Glavier, Ludovic	LAAS CNRS	Investigation of the Impact Initiation of a Secondary Explosive by the Combustion of Nano-Energetic Materials
Nicollet, Andrea	LAAS CNRS	Design, Realization and Characterization of Several Types of Micro-Initiators Integrating Al/CuO Nanothermite: Role of Metallic Micro-Heater and Substrate on Fire/No Fire Characteristics
Spitzer, Denis	NS3E Research Laboratory	Hybrid Nanothermites: Energetic Materials for Cutting-Edge Applications
Olles, Joseph	Sandia National Laboratories	Electrostatic Discharge Sensitivity of Titanium Potassium Perchlorate at Varying Densities
Williams, Christopher	CAPCO Incorporated	3D Co-Printing of Multiple Pyrotechnic Materials with Novel Geometries
Kerbein, Alice	CAPCO Incorporated	3D Printing of Multi-Core Propellant Grains with Integral Structural Elements
Poret, Jay	U.S. Army RDECOM-ARDEC	Introduction to Pyrotechnic Light Measurements
Valancius, Cole	Sandia National Laboratories	Electrical Comparisons of Ignition versus Initiation
Martellaro, Phillip	Reactive Materials International, Inc.	Impact Ignition Threshold and Combustion Performance of Nano-Structured Reactive Materials
Koenig, Josh	South Dakota School of Mines and Technology	Combustion Characteristics of W/MnO ₂ as an Environmentally Friendly Time Delay System
Srinivas, Girish	TDA Research, Inc.	Igniter Composition with Low Moisture Susceptibility
Shafirovich, Evgeny	University of Texas at El Paso	Chemical Gas Generators Based on Mechanically Alloyed Reactive Materials
Piekiel, Nicholas	U.S. Army Research Laboratory	Investigation of Flame Jump in Rapidly Reacting Porous Silicon
Groven, Lori	South Dakota School of Mines and Technology	Smart Energetics: Harnessing Piezoelectric Behaviour
Groven, Lori	South Dakota School of Mines and Technology	Alternative Fuels for Direct Write Printed Biocidal Formulations
Xu, Jianbing	Nanjing University of Science	Preparation of an Aqueous Nanothermite Inks for Micro Charging in Solid Propellant Microthruster
Porter, Matthew	University of Rhode Island	From Fireworks to Biocides: Formulations to Defeat Biological Threats with Heat and Iodine
Yarrington, Cole	Sandia National Laboratories	HNS Critical Thickness Reactive Burn Modeling

Lucon, Peter	Resodyn Mixers	Continuous Processing of Energetic Materials
Brusnahan, Jason	Defence Science and Technology Group	Barium-Free Green Illuminants Based on Magnesium Diboride
Nardai, Michael	Fraunhofer-Institute fuer Chemische Technologie (ICT)	Molecular Dynamics Simulation of Cohesion within Solid Propellants
Moretti, Jared	U.S. Army RDECOM-ARDEC	Continued Efforts toward a Perchlorate-Free Green Illuminant Composition for the M195 Hand Held Signal
Hall, Scott	Nammotalley Inc.	Development of Green Extrudable Pyrotechnic Delays for the Navy
Diviacchi, Giancarlo	U.S. Army RDECOM-ECBC	Development and Testing of Less Toxic, Hygroscopic Metal Chlorides
Sabatini, Jesse	U.S. Army Research Laboratory	Synthesis and Properties of Dual-Use Nitrate Ester Energetic Materials
Polk, Ameer	U.S. Army RDECOM-ECBC	Pyrotechnically Generated and Disseminated Aerosol for Bio-Agent Defeat
Dye, David	Naval Surface Warfare Center - Crane	Development of Standardized Test Methods for Small Arms Muzzle Flash Measurements
Doorenbos, Zac	Innovative Materials and Processes, LLC	Development of an Environmentally Benign Pyrotechnic Delay System
Dilger, Jonathan	Naval Surface Warfare Center - Crane	Pyrolysis/Gas Chromatography/Mass Spectrometry: A New Tool to Detect Toxic Byproducts of Pyrotechnic Reactions
Reeves, Robert	Lawrence Livermore National Laboratories	Investigation of Structure/Behavior Relationships in Metallized Explosives
Wejsa, James (or) Zimmer, Andrew	U.S. Army RDECOM-ARDEC	U.S. Army Pyrotechnic Technology Initiatives (From Legacy to Leap Ahead)
POSTER SESSION		
<u>Presenter/Author</u>	<u>Organization/Contact</u>	<u>Abstract Title</u>
Debnath, Sujoy	High Energy Materials Research Laboratory	Direct Versus Indirect Heat Transfer for Fast Melting of Metals
Bixon, Eric	U.S. Army ARDEC	Accelerated Aging of M206 Flares in Ammunitions Cans
Caska, Kevin	U.S. Army ARDEC	Midrange-Infrared Thermal Imagery - A Novel Approach for Testing Pyrotechnic Devices

Demezou, Guillaume	Herakles Company	Thermal Modelling of a Medium Energy Electro-Pyrotechnic Initiator
Yang, Li	Beijing Institute of Technology	Five-Membered NMO-chelates with Multiple Coordination Modes: A Family of Semicarbazide Based High Energy Materials
Liang, Wang	Institute of Chemical Materials	Investigation on Performance Enhancement of Exploding Foils by B/Ti Composites
Li, Yan	Nanjing University of Science	In-Situ Preparation of Porous Nickel Azide and Its Performance Tests
Mendonca, Fausto	Technological Institute of Aeronautics	Blast Response of Reinforced Concrete Slabs with Varying Standoff and Steel Reinforcement Ratios
Tan, Meng Lu (Ms.)	Nanyang Technological University	Effect of Self-Assembly on the Combustion and Sensitivity of Aluminum/Iron Oxide Nanothermites
Doorenbos, Zac	Innovative Materials and Processes, LLC	Automated Loading Process of Primary Explosive Formulations in End Items
Martin, Darold	U.S. Army RDECOM-ARDEC	Some Comparative Aspects of the Energetic Materials: from Nanoparticles, 1D Nanowires, 2D Nanofilms, to 3D Interconnected Foam Structures
Mehta, Neha	U.S. Army RDECOM-ARDEC	DBX-1 Green Primary use in M55 & M100 Detonators
Wilharm, Caroline	Naval Surface Warfare Center - Crane	Accelerated Aging of MTV
Yamamoto, Christina	Naval Surface Warfare Center - Crane	Issues and Observations during Scale up of Pyrotechnic Flare Compositions in Multiple Form Factors
Doorenbos, Zac	Innovative Materials and Processes, LLC	Ceramic Matrix Pyrophoric Substrates & Structures
Hwang, Dae-Hyun	KAIST	Mathematical Modeling for Separation Behavior of Pyrotechnic Separation Device
Lee, Yeung Jo	Agency for Defense Development	Design and Test on Pyroshock-reduced Separation Device
Hu, Yan	Nanjing University of Science	Study on Direct Write Charging Based on Core-Shell Structured Al/CuO by Inkjet Printing
Cheng, Yi	Nanjing University of Science	Electrospun Nanofiber-Based B/NC Composite and Their Reactive Properties
Nandagopal, Sudhir	High Energy Materials Research Laboratory	Environmental Friendly Cost Effective Alternative Solvent for Safe Synthesis of Diazidoglyoxime: An Important Intermediate for TKX-50
Piercey, Davin	Nalas Engineering Services, Inc.	Development of a Lean Process to the Lead-Free Primary Explosive DBX-1

Pan, Renming	Nanjing University of Science	Synthesis and Thermal Decomposition of 2-Difluoroaminomethyl-2-Methyl Propane-1,3-diol Dinitrate (DFAMPDN)
Aufauvre, Lionel	INERIS Certification Division	European Directive 2013/29/EU and Person with Specialist Knowledge
Beppler, Christina	Sandia National Laboratories	Comprehensive Chemical and Material Analysis of TKP and THxKP Pyrotechnic Powders to Improve Pyrotechnic Degradation and Performance Models
Wilcox, Matthew	South Dakota School of Mines and Technology	Titanium Aluminum/PTFE Composite Particles for Enhanced Ignitability and Combustion
Shafirovich, Evgeny	University of Texas at El Paso	Mechanisms of Thermite Reactions during Combustion of Magnesium with Lunar and Martian Regolith Simulants
Wente, William	Sandia National Laboratories	Electrostatic Discharge Degradation of Titanium Potassium Perchlorate
Groven, Lori	South Dakota School of Mines and Technology	Development of Pyrotechnic Formulations for Deep Bore Well Patching and Plugging
Lucon, Peter	Resodyn Mixers	Power Density and Operating Conditions for use of the ResonantAcoustic Mixer
Ballanger, Felix	CEA, DAM	Capture of a Particles Cloud Dispersed by an Explosive Charge
Chen, Gary	U.S. Army RDECOM-ARDEC	Development of a Performance-Enhanced Visible Illuminant Composition for the M127A1 Hand Held Signal
Brochu, Sylvie	Defence Research and Development Canada	Perchlorate Particulate Emissions Resulting from the Use and Demilitarization of Common Pyrotechnic Devices
Zimmer, Andrew	U.S. Army RDECOM-ARDEC	Capabilities and Success Stories from the U.S. Army's Pyrotechnics Research, Development, and Pilot Plant Branch at Picatinny Arsenal
Lin, Xiangyang	Nanjing University of Science	Compatibility of Tetranitroacetimidic Acid with the Materials Used
SALES BOOTHS		
<u>Presenter/Author</u>	<u>Organization/Contact</u>	<u>Abstract Title</u>
Sawka, Wayne	Digital Solid State Propulsion, Inc.	Multi-Fire eSquibs using Green, Controllable, Electric Solid Propellants for Pyrotechnic Effects
McPherson, Michael	Digital Solid State Propulsion, Inc.	Novel Green Electrical Energetic Formulations for Pyrotechnic and Propulsion Applications
Kosanke, Bonnie	Journal of Pyrotechnics	CD and Book Sales