

DRAFT SCHEDULE FOR 45th IPS SEMINAR - Version 3

MON	MON TALKS	Time (min)	MON (hrs)
	introduction	10	8:00-8:10
	welcome	10	8:10-8:20
A-1 KEYNOTE	80. Ralph Santore and Son; Fireworks Overview	50	8:20-9:10
A-2	22. Medus, Dominique; New Stroboscopic Effect for Fireworks: Theoretical Approach of Comprehension and Modelisation	20	9:20-9:40
A-3	92. van Lingen, Joost; Development of a Low-smoke Lift System for Firework Shells	20	9:40-10:00
A-4	28. Klapötke, Thomas; Lithium-based Red Pyrotechnic Colorants for Environmentally Benign Illuminants	20	10:00-10:20
	break/posters	30	10:20-10:50
B-1	71. Freeman, Cathleen; Effect of Tailored Additives on Reactivity and Output of Nanothermites	20	10:50-11:20
B-2	19. Valluri, Siva Kumar; Reactive Composites of Boron with Binary Oxidizer including Bismuth and Copper Oxides	20	11:20-11:40
B-3	16. Chen, Yajie; Graphene Oxide Additives Enhance the Reaction Performance of Al/CuO Nanoenergetic Material	20	11:40-12:00
	lunch	80	12:00-1:20
C-1	53. Vasudevan, Ashvin ; Mechanochemical Nitration of Different Organic Precursors	20	1:20-1:40
C-2	67. Dubois, Charles; Two-step Synthesis of Poly (2,2'-bisazidomethyl-1,3-propanediyl carbonate), a Possible Alternative to Glycidyl Azide Pre-polymers in the Formation of Triazole Cross-linked Energetic Polymer Network	20	1:40-2:00
C-3	89. Koch, E-C.; The First Coordination Compounds of Nitroguanidine	20	2:00-2:20
C-4	66. Date, Shingo; Effect of Ammonium Nitrate Solution Concentration during Preparation on Cyclic Thermal Behavior of Some Co-crystallized Phase-stabilized Ammonium Nitrate	30	2:20-2:40
C-5	6. Gao, Han; Two Self-Assembled Spherical Structure of 3, 3'-Diamino-4, 4'-Azoxyfurazan (DAAF) Explosive, Preparation, Characterization and Formation Mechanism	20	2:40-3:00
Break	Poster Setup	30	3:00-3:30
D-1	86. Hartmann, Marco; Application of Data Loggers with Implemented Kinetic Parameters to Monitor the Shelf Lives of Energetic Materials	20	3:30-3:50
D-2	7. Drouet, David; Finite Element Investigation of the Crystal Plasticity Heating of Beta-HMX During Low Velocity impact	20	3:50-4:10
D-3	31. Cornell, Rodger; Recent Improvements to Detailed Chemical Kinetic Models for Energetic Material Combustion	20	4:10-4:30
D-4	2. Pelikan, Vojtech; Application of the Maximum Likelihood Estimation Method for the Evaluation of some Tasks in the Energetic Materials Sensitivity testing CANCELLED	20	4:30-4:50

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TUES	TUES TALKS	Time (min)	TUES (hrs)
E-1 INV 2	77. Pantoya, Michelle; The Reactive Behaviors of Stressed-Out Fuel Particles	50	8:00-8:50
E-2	27. Hastings, Daniel; Porous Spherical Aluminum Powders with Reactivity Approaching that of Nano-aluminum	20	8:50-9:10
E-3	12. Huang, Chuan; Incorporation of High Explosives into Nano-aluminum Based Microspheres to Improve Reactivity	20	9:10-9:30
E-4	32. Mursalat, Mehnaz; Energetics of Porous Spherical Boron Powders produced by High Energy Milling in Immiscible Fluids	20	9:30-9:50
break/posters		20	9:50-10:10
F-1	81. Hall, Scott; A Summary of Pyrotechnic Autoignition Material Development and Evaluation (1996-2020) at Nammo Defense, Inc	20	10:10-10:30
F-2	9. Luan, Zhaohua; Synergetic Effect of the Chemical Compositions in an Energetic Device	20	10:30-10:50
F-3	38. Manda, M. N.; Studies on Anhydride Based Spectrally Matched IR Flare Compositions	20	10:50-11:10
F-4	88. Koch, E-C.; Development of Extended Area Infrared Decoy Flares	20	11:10-11:30
grp photo/lunch		80	11:30-12:50
G-1	74. Fronabarger, John; Novel Non-conductive Pyrotechnic Bridgewire Composition	20	12:50-1:10
G-2	72. Lopez, Lucas, Development of New Igniters to Improve Benite in Tank Propellants	20	1:10-1:30
G-3	91. Hirlinger, John; Sub-miniature Laser Igniter	20	1:30-1:50
G-4	33. Motyka, Mark; Effect of Hardware Design on Stun Grenade Performance Characteristics	20	1:50-2:10
break/posters		20	2:10-2:30
H-1	3. Bohn, Manfred; Mechanical Behaviour of Cured Energetically Enriched HTPB Binders and of High Explosives Charges made with Them	20	2:30-2:50
H-2	37. Jain, Sunil; Thermal Decomposition Study of Ammonium Perchlorate in the Presence of Copper Tungsten Oxide (CuWO ₄) and its evaluation in Composite Propellant Formulations	20	2:50-3:10
H-3	48. Mull, Eric; Development of Isocyanate-Free Binder Systems	20	3:10-3:30
H-4	87. Mukhtar, Amir; Development and Study of an AP/HTPB based Composite Solid Propellant Base Bleed Grain for 155 mm Artillery Projectile	20	3:30-3:50
H-5	36. Badgujar, D. M.; Thermal Analysis, Sensitivity and Ballistic Properties of Fuel and Novel Oxidizer Based Formulation	20	3:50-4:10
P	Poster Session (snacks & cash bar)	120	4:15-6:15

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WED	WEDS TALKS	Time (min)	WED (hrs)
I-1 INV 3	78. Perry, W. Lee; RF Ignition of Energetics	50	8:00-8:50
I-2	59. Lawrence, Adam; Microwave Enhancement of Metal Particle Emission in Premixed Flames	20	8:50-9:10
I-3	65. Barkley, Stuart; Microwave Enhancement of Pyrotechnics Flames	20	9:10-9:30
I-4	57. Lynch, Joel; Numerical Investigation of Gas-phase Plasma Behavior in Microwave-enhanced Pyrotechnics using an Alkali-seeded Flame Analog	20	9:30-9:50
break/posters		20	9:50-10:10
J-1	41. Morgan, Michael, Determining the Performance of Personal Protective Equipment during Unplanned Ignition of Electronic Warfare Self-Protection Flares	20	10:10-10:30
J-2	44. Ramondou; Antoine; Explosion Containment Chamber: Mastering the Test Conditions & Saving the Environment	20	10:30-10:50
J-3	54. Huang, Ci (Ricardo); Ignition of Reactive Material Powders in Vicinity of an Electrostatic Discharge	20	10:50-11:10
J-4	69. Andrews, Matthew; Influence of Mechanical Properties on the Explosiveness of Energetic Materials	20	11:10-11:30
J-5	75. Petr, Vilem; Experimental Investigation into the Safety Distance for Ethane-Oxygen Gas Explosion Applied to Industrial Cleaning	20	11:30-11:50
lunch		70	11:50-1:00
K-1	82. Farrar, Lawrence; Advances in Resodyn Acoustic Mixer Processing Methods and Characterization	20	1:00-1:20
K-2	30. Miller, Mike; Resonant Acoustic Continuous MicroReactor	20	1:20-1:40
K-3	68. Ward, Daniel; Continuous Platforms for Synthesis of Energetic Materials	20	1:40-2:00
K-4	4. Spitzer, Denis; From Spray Flash Evaporation to Spray Flash Synthesis : New Opportunities for Defence Materials	20	2:00-2:20
break/posters		10	2:20-2:30
L-1	64. Puszynski, Matthew; Technological Advancements of Nanothermite-Based Ignition Devices	20	2:30-2:50
L-2	47. Shaw, Anthony; Thermic Thermodynamics – Characteristics of an Adiabatic Metal-Metal Oxide Reaction Matrix	20	2:50-3:10
L-3	45. Guerieri, Philip; Energetic Porous Silicon for Microfabricated Pyrotechnic Primers and E-Matches	20	3:10-3:30
L-4	11. Moretti, Jared; Demonstration of an Environmentally Benign Composition for the M209 Shotgun Primer	20	3:30-3:50
Business Meeting		40	3:50-4:30

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THUR	THURS TALKS	Time (min)	THUR (hrs)
M-1 INV 4	79. Caravaca, Elbert; Additive Manufacturing of Gun Propulsion Charges Overview	50	8:00-8:50
M-2	40. Morgan, Michael; Thermite additive manufacturing feedstocks	20	8:50-9:10
M-3	46. McGee, Christine; Additively Manufactured (3DP) Thermite Structures vs Conventionally Manufactured Equivalents	20	9:10-9:30
M-4	56. Kotter, Lance; The Role of Binder Type on 3D Printed Ammonium Perchlorate Composite Propellant	20	9:30-9:50
break/posters		30	9:50-10:20
N-2	60. Mason, B. Aaron; Combustion of Mechanical activated Aluminum/Polytetrafluoroethylene Powders at Ambient and Low Pressures Conditions	20	10:40-11:00
N-3	62. Zaitzeff, Mikel; Flexoelectricity in Al/Fluoropolymer Reactives	20	11:00-11:20
N-4	17. Parate, Bhupesh; Gas Generator Pyrotechnics using Gun Propellant Technology Methods	20	11:20-11:40
N-5	35. Valluri, Siva Kumar; Silicon-Metal Fluoride Composites: Preparation and Study of Ignition and Combustion in Air	20	11:40-12:00
lunch		75	12:00-1:15
O-1 Bursary	23. Torkington, David; A Mathematical Model of the Onset and Growth of Shear Bands (BURSARY Applicant)	20	1:15-1:35
O-2	26. Kuhl, Allen; Modeling Burning Metal Streamers in Pyrotechnic Explosions	20	1:35-1:55
O-3	57. Lynch, Joel; Numerical Investigation of Gas-phase Plasma Behavior in Microwave-enhanced Pyrotechnics using an Alkali-seeded Flame Analog	20	1:55-2:15
break/posters		20	2:15-2:35
Q-1	14. Francois, Elizabeth; Creating an official PBX (Plastic Bonded Explosive) at Los Alamos National Laboratory PBX 9701: the first PBX in 40 years	20	2:35-2:55
Q-2	24. Collet, Christelle; An International Review on Green Insensitive Plastic Explosives	20	2:55-3:15
Q-3	98. Holley, David; The Development of Ordnance Materials and Explosives	20	3:15-3:35
Q-4	18. Knepper, Robert; Effects of Non-Ideal Interfaces on Detonation Propagation in Explosive Bilayers	20	3:35-3:55
Q-5	20. Wang, Jiaxin; Preparation and Performance Testing of Nano DBX-1	20	3:55-4:15
	Closing Remarks		4:15-4:30

<u>Session</u>	<u>Session Title</u>
A	Fireworks
B	Nanothermites
C	Synthesis
D	Modeling Part I
E	Novel Fuels
F	Pyrotechnic Materials Part I
G	Igniter and Hardware Designs
H	Propellants
I	RF Ignition and Effects of Energetics
J	Safety
K	Processing & Production of Energetics
L	New Igniter Materials
M	Additive Manufacturing
N	Pyrotechnics Materials Part II
O	Modeling Part II
P	Poster
Q	Explosives