

Tentative

DRAFT SCHEDULE FOR 47th IPS SEMINAR - Version 2

MON	MON TALKS	Time (min)	MON (hrs)
Introduction	Dr. Greg Knowlton, President, IPSUSA Seminars, Inc.	10	8:00-8:10
Welcome	Noah Lieb and Cathleen Freeman, Seminar Co-Chairs	10	8:10-8:20
<b>A-1 KEYNOTE</b>	<b>Mr. Mike Siirila, Chief Engineer, Estes Energetics Presents on the Modernization of Black Power Production</b>	50	8:20-9:10
A-2	023, Christopher Csernica, Black Powder Ignitibility Framework for Large Systems	20	9:20-9:40
A-3	054, Magdalena Rusan, Investigation of Sparkler Compositions and Boron-based Pyrotechnic Formulations	20	9:40-10:00
A-4	041, Daniel Perkins, Demonstration of a Fully Green M213 Fuze System for M67 Hand Grenade	20	10:00-10:20
break	Poster Setup	30	10:20-10:50
B-1	09, Takahiro Okano, 3D Printing of some Gas Generating Composition using Vat Photopolymerization Method	20	10:50-11:20
B-2	060, Shingo Date, 3D Printing of Potassium Perchlorate/Photocurable Resin Composition using Vat Photopolymerization Method	20	11:20-11:40
B-3	047, Maxime Blanchon, Coating of HMX Particles by NTO to Formulate Nano-Core-Shell Particles by Spray Flash Evaporation (SFE)	20	11:40-12:00
lunch		80	1:00-1:20
C-1	004, Nicholas Carlucci, Apparatus and Method for High-Throughput Screening of Pyrotechnic Compositions	20	1:20-1:40
C-2	005, Qingchou Chen, A Simplified Method to Evaluate the Output Pressure of Detonators	20	1:40-2:00
C-3	006, Ren Hong, Comparing Photon Doppler Velocimetry (PDV) Systems Development Cost with An Open Platform and Modular Based Approach	20	2:00-2:20
C-4	063, Stewart Youngblood, Laser Induced Breakdown Spectroscopy	30	2:20-2:40
C-5	039, Greg Dutro, Experimental Evaluation of Diagnostics for Hydrogen-Oxygen Ignition Studies	20	2:40-3:00
break/poster	Poster Setup	20	3:00 - 3:20
D-1	024, Jamie Lee, The Effects of Oxygen Content in Strontium Peroxide on Igniters	20	3:20-3:40
D-2	062, Michael Gozin, Janus-type Hypergolic Fuels for Hybrid Systems Using H2O2 and HAN-based Oxidizers	20	3:40-4:00
D-3	072, Caleb Harper, Increasing Burn Rate and Surface Activity of Aluminum in Solid Propellant Formulations Containing Gallium and Indium Additives	20	4:00-4:20
D-4	028, M. N. Manda, Studies on Anhydride Based Spectrally Matched IR Flare Compositions	20	4:20-4:40
D-5	016, Sebastian Yongsan Quek, Graphene Oxide's Role in Aluminum Combustion: A Study on Oxygen-to-Carbon Ratios	20	4:40-5:00
	Picnic		

Session	Session Title
A	Material Reactivity: Pyrotechnic Applications
B	Material Processing: Additive Manufacturing & Coatings
C	Analytical Techniques: Material Characterization Methodologies
D	Material Reactivity: Formulations
E	Material Reactivity: Explosives
F	Analytical Techniques: Material Properties
G	Material Processing: Synthesis
H	Material Processing: Mixing, Nitration & Nitrolysis
I	Material Sensity: Intrinsic & External Effects
J	Material Environmental Effects
K	Analytical Techniques: Testing Methodologies
L	Analytical Techniques: Modeling
M	Analytical Techniques: Testing & Facility Capabilities
N	Material Reactivity: Propellants & Pressure Generation

## DRAFT SCHEDULE FOR 47th IPS SEMINAR - Version 2

TUES	TUES TALKS	Time (min)	TUES (hrs)
E-1 INV 2	<b>XX. (INVITED SPEAKER); TITLE OF PAPER</b>	50	8:00-8:50
E-2	008, Thomas Klapotke, TKX-50 in Thermobaric Formulations	20	8:50-9:10
E-3	049, Mohsen Sanai, Blast and Explosion Research and Testing	20	9:10-9:30
E-4	055, Etienne Testard, Deflagration to Detonation Transition Test on Mixed HMX - LLM105 Explosive using a High Containment Steel Tube	20	9:30-9:50
break/posters		20	9:50-10:10
F-1	066, J. Keith Clutter, Investigation of Reaction Processes in Aluminized Blast Explosives	20	10:10-10:30
F-2	040, Jan Puszynski, Simultaneous Measurements of Heat Flow and NO and NO <sub>2</sub> Gas Concentrations During Decomposition of Double Base Propellants	20	10:30-10:50
F-3	034, Rafal Lewczuk, Energetic Properties of Dianhydrohexitol Dinitrates	20	10:50-11:10
F-4	011, A. F. Macdonald, An Investigation into PETN Acidity using Heat Flow Calorimetry	20	11:10-11:30
grp photo/lunch		80	11:30-12:50
G-1 BED YSA	<b>Bernie Douda Young Scientist Award</b> 030, Ryosuke Omori, Combustion Characteristics of Energetic Ionic Liquids using an Electrolysis Ignition Combustor	20	12:50-1:10
G-2	050, Tristan Kenny, Rapid Synthesis of Fuel: Oxidizer Composite Crystals for Energetic Applications	20	1:10-1:30
G-3	027, Dr. Braja Pradhan, An Optimized and Safe Synthesis of DBX-1	20	1:30-1:50
G-4	053, Stefan Ek, Synthesis and Characterization of the Energetic Plasticiser Bu-AENA	20	1:50-2:10
G-5	058, Shakole Rugh, Structural Reactives via Coupled Cold-spray and Friction Stir Processing	20	2:10-2:30
break/posters		20	2:30-2:50
H-1	051, Jos van den Elshout, Flow Nitration of Cellulose Powders	20	2:50-3:10
H-2	038, Joseph Mayne, Advancements in ResonantAcoustic® Continuous Flow Technology for Material Synthesis and Crystallization	20	3:10-3:30
H-3	021, Mark Bradley, New Mixing Technologies for Pyrotechnic Composition Manufacture	20	3:30-3:50
H-4	046, Hope Sartain, The Nitro 15N Labeling of Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) by the Nitrolysis of Unenriched 1,5-diacetyloctahydro-3,7-dinitro-1,3,5,7-tetrazocine (DADN) using a H <sub>15</sub> NO <sub>3</sub> and Polyphosphoric Acid (PPA) System	20	3:50-4:10
H-5	035, Andrew Bok, Particle Deposition for Energetic Materials		4:10-4:30
P	Poster Session	120	4:30-6:30

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WED	WEDS TALKS	Time (min)	WED (hrs)
<b>Bursary</b>			
I-1	022, Declan H. Williams, The Challenges of Moving from Batch to Flow for the Synthesis of HMX and 2,4,6- Trinitroethylbenzene (TNEB)	20	08:20-08:40
I-2	045, Rebekah Travis, Effects of Micron-Sized Silicon Dioxide Particles on the Sensitivity of PETN	20	08:40-09:00
I-3	031, Romuald Van Riet, Study of the Effect of Temperature on Impact Sensitivity	20	09:00-09:20
break/posters		30	09:20-09:50
J-1	003, Dr. Anthony Shaw, A Thermodynamic Connection Between Electrochemical and Pyrotechnic Reactions	20	09:50-10:10
J-2	029, Alexander Schweiger, Investigation of Nitrogen-rich Heterocycles as Environmentally Friendly Pyrotechnical Compounds	20	10:10-10:30
J-3	013, William Eck & Brian Hubbard, PFAS and Energetic Materials	20	10:30-10:50
J-4	059, Lea Davis, Navigating Regulatory Complexity and Addressing Educational Gaps in the Energetics Field: Challenges and Opportunities	20	10:50-11:10
J-5	032, Romuald Van Riet, Energetic Composite Nanomaterials Based on Activated Carbon Filled with Oxidizing Agents	20	11:10-11:30

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THUR	THURS TALKS	Time (min)	THUR (hrs)
K-1	071, Suzanne Hurrey, Development of a Pilot Plant for HE Synthesis	20	8:30-8:50
K-2	068, Sebastien Boussac, Manometric Bomb: from Design to Final Validation Testing	20	8:50-9:10
K-3	037, Manfred Bohn, Assessing Thermo-chemical Aging of Energetic Materials – Is following just standards adequate?	20	9:10-9:30
K-4	025, Jason Phillips, The Henkin-McGill Critical Temperature Test Revisited	20	9:30-9:50
break/posters		30	9:50-10:20
L-1	056, Patricia L. Huestis, Understanding the Effects of Ionizing Radiation on Explosives and Energetic Functional Groups	20	10:40-11:00
L-2	052, Kevin Jaansalu, Estimation of the Coefficient of Thermal Expansion of Energetic Composites with Application to the Estimation of the Bulk Modulus	20	11:00-11:20
L-3	007, Erwan Ott, Improving the Accuracy of Calculated Formation Enthalpies for Energetic Salts	20	11:20-11:40
L-4	065, Flint Pierce, Numerical Prediction of Erosion in a Rocket Motor	20	11:40-12:00
lunch		60	12:00-1:00
M-1	057, Mateusz Szala, Forensic Detection of Pyrotechnic Mixtures by using FTIR-ATR	20	1:00-1:20
M-2	042, Mohsen Sanai, High-Pressure Shock-Tube Experiments to Study the Response of Building Façade Materials to Simulated Ideal and Nonideal Air Blast	20	1:20-1:40
M-3	069, Raphael Rodier, New Fast-Dynamics Facility for Tests on Reactive Materials in THIOT INGENIERIE Laboratory	20	1:40-2:00
M-4	002, Hizba Waheed, Development and Comparative Analysis of Triple Base Propellant for Artillery Gun	20	2:00-2:20
break/posters		20	2:20-2:40
N-1	001, Amir Mukhtar, Development and Study of an AP/HTPB based Composite Solid Propellant Base Bleed Grain for 155 mm Artillery Projectile	20	2:40-3:00
N-2	067, Jake Martinelli, Exploring Rheology and Combustion of MgB2 Catalyzed Ammonium Perchlorate Composite Propellant	20	3:00-3:20
N-3	015, Steven Butler, Sustainable Development of Gas Generant Formulations for Application in Automotive Airbags	20	3:20-3:40
	Business Meeting	60	4:00 - 5:00
	Dinner		