



13-14 October 2004

Stevens Institute of Technology
Wesley J. Howe Center, 2nd Floor

Day One

Intro	8:00 – 8:30	<i>Continental Breakfast/Registration</i>	
	8:30 – 8:40	Welcome/Opening Remarks	Kristin Jasinkiewicz, ARDEC Dilhan Kalyon, SIT
	8:40 – 9:00	Dr. H. Raveché, President SIT	Dr. Hal Raveché, SIT
Mr. Halil Gevgilili, SIT, Session Chair			
Propellant Process Development	9:00 – 9:30	Continuous Processing of Red Phosphorus Butyl Rubber (RPBR) Composition on a 20-mm Twin Screw Extruder	Christopher Radack, IHDIV, NSWC
	9:30 – 10:00	Highly Filled Small Particle PBX Processing Utilizing TSE Technology	Richard Muscato, IHDIV, NSWC
	10:00 – 10:30	Co-extrusion Die and Takeaway System Designs for Manufacturing co-layered Propellant	Collier Cline/Richard Muscato/Christopher Gonzalez, IHDIV, NSWC
	10:30 – 11:00	<i>Break/Snack</i>	
	11:00 – 11:30	Solvent multibase gun propellant process for continuous production	Jean Louis Paulin, EURENCO
	11:30 – 12:00	Army-MPR and Stevens Collaboration to Design and Build the Smallest Twin Screw Extruder in the World for processing of Nanoparticles into Nanoenergetics and Nanocomposites	J. Kowalczyk/J. Graybill/ B. Karuv, MPR D. Kalyon/H. Gevgilili/ M. Zghaibeh/S. Ozkan, SIT B. Reddingius/M. Mezger, ARDEC
	12:00 – 1:00	<i>Lunch</i>	
Mr. Michael Rose, ATK-Thiokol, Session Chair			
Pyrotechnics	1:00 – 1:30	Processing Black Powder through a Twin Screw Mixer/Extruder	Timothy Dawag/Kristin Jasinkiewicz, ARDEC
	1:30 – 2:00	M-206 Flare Composition	Timothy Dawag/Kristin Jasinkiewicz, ARDEC
	2:00 – 2:30	Processing Considerations for TSE processing of Infrared Decoy Composition	Bradley Stevenson/Jeffrey Campbell, Crane, NSWC
	2:30 – 3:00	<i>Break/Snack</i>	

Day One (Continued)

Focus on Safety	Mr. Michael Fair, US Army, RDECOM-ARDEC, Session Chair		
	3:00 – 3:30	Statement of Facts Regarding an Instance of Thermal Decomposition in a 40-mm Twin Screw Extruder	Christopher Gonzalez/ Suzanne Prickett, IHDIV, NSWC
	3:30 – 4:00	88-mm TSE Scale Up Facility	Stuart Richman, IHDIV, NSWC
	4:00 – 4:30	Novel rheological characterization platforms for the extrudability and safety analysis of energetic materials	Dilhan Kalyon/Halil Gevgilili/ Elvan Birinci/Hansong Tang, SIT James Kowalczyk/ Bahadir Karuv, MPR
	4:30 – 5:00	<i>Break</i>	
	Reception & Dinner		
	5:00 – 8:00	Dinner	All
8:00	<i>Adjourn Day One</i>		

Day Two

Rheology & Mathematical Modeling	8:30 – 9:00	<i>Continental Breakfast</i>	
	TBD, Session Chair		
	9:00 – 9:30	Extrusion processing and modeling at TNO-PML	Casper Schoolderman/Aat Hordijk, TNO-PML
	9:30 – 10:00	Rheological Behavior of Concentrated Suspensions as affected by the Degree of Mixedness of their Ingredients	Dilhan Kalyon/Dharmesh Dalwadi/Melek Erol/Berton Greenberg/Elvan Birinci, SIT
	10:00 – 10:30	<i>Break</i>	
	10:30 – 11:00	Mathematical Modeling of the Twin Screw Extrusion Processing of Energetic Materials for tangential versus fully-intermeshing and co versus counter-rotating	Moinuddin Malik/ Tugrulbey Kiryaman/Dilhan Kalyon, SIT
	11:00 – 11:30	Predictions of the Onset of Flow Instabilities and Gross Surface Irregularities of Energetic Grains during Extrusion	Dilhan Kalyon/ Hansong Tang/Elvan Birinci/ Halil Gevgilili, SIT
Tour	11:30 – 12:30	<i>Lunch</i>	
	12:30 – 12:45	Close-out	All
	12:45 – 1:00	Group Picture	All
	1:00 – 4:00	Tour of Highly Filled Materials Institute	All
4:00	<i>Adjourn Day Two</i>		