International Symposium on Interaction of the Effects of Munitions with Structures

2015

Facility Risks/ Protection		
M.B Pickup	A Protective Perimeter Barrier – Design, Testing and Analysis	
M. Behrends	The Effects of Explosive Substances onto Vending Machines in Public Areas	
F.G. Hulton	The use of Compartmentalization in the Protection of Camps-	
H.S. Lim	Concrete Debris Breakup Upon Impact	
E. Cadoni	Protection of Infrastructure Elements from the effects of IEDs: The Role of the Mechanical Characterization of Materials at High Strain Rate-	

Blast on Panels		
L. Schwer	Blind Blast Simulation: A Validation Effort Assessment-	
R. Keys	Experimental Analysis of Small Masonry Panels Subject to Long Duration Blast Loading-	
M. Schachter	Effect of Modeling Assumptions in the Analysis of Curtain Wall Systems under Blast Loads	
C. Oswald	Testing and Analysis of Connections for Blast-Loaded Precast Panels	
D. Barker	Polycarbonate Curtain Wall Systems for High-Range Blast Loads	

Intro - Model Overview		
H. Sohn	Overview of the Collaborative Work under the PA on Weapon Effects in Urban Operations-	
E. Scarborough	Recent Improvements to the Modular Effectiveness Vulnerability Assessment (MEVA) Simulation	
D. Rossberg	Coupling of Fast Running Models to Assess Weapon Effects in Urban Environment-	
J-M Sibeaud	High Speed Computing for the Modeling of Explosive Burst effects on Buildings at Full Scale and Experimental Assessment	
S. Frank	Analysis of an Engineering Level Airblast Model within a City Landscape	

Blast Model Development		
B. Boonacker	Towards a Flexible Fast-Running Blast Effects Model-	
W. Halswijk	BeamBlast: Blast Path-Finding Algorithms	
A. Ohrt	Quasi-Static Gas Pressure Characteristics From Two Different Cased Explosive Cylinders	

High Strain rates		
A.D. Barr	Finite Element Modelling of Split Hopkinson Pressure Bar Experiments on Sand	
G. Riganti and E. Cadoni	The use of the Split Hopkinson Bar Tests to Assess the Material Models for Concrete	
Y. Yi	Numerical Analysis of a Ta EFP According to the Liner Shape	

Special Topics		
KG Rakvåg	Modeling of Reinforced Concrete with Embedded Rebar and Node Splitting	
F. Togashi	Numerical Simulation of Shock Induced Acetylene Combustion Using Infinite Rate Reaction Model	
V. Feldgun	Study of the Blast Response of Thin Rectangular Plates Using a Nonlinear SDOF Model	
B. Belkassem	Optimized Speckle Patterns for Digital Image Correlation Measurements with Higher Spatial Resolution	

RC Panel testing		
B. Foust	Restrained Ultra High Performance Concrete (UHPC) Slab Response	
R. Sovjak	Penetration Resistance and Mechanical Properties of Ultra-High-Performance Fiber-Reinforced Concrete	
M. Bazan	Testing and Analysis of Precast Concrete Wall Panels	
B. Cavelti	Concrete Slabs Subjected to Blast Loads	

Structural Response (NATO)		
M. Huebner	An Engineering Approach for the Simulation of the Structural Response of Systems Subjected to Dynamic Loading	
Mangual	Effects of Common Pre-Detonation Materials on Protective Structures-O. Esquilin	
W. Lenoir	Investigation of Airblast Phenomena in a Miniature Two-Room Bunker	
D. Bogosian	Design of Small-Scale Test Article for Internal Detonation Testing	
A. Burbach	Blast load on Brickwork	

Fragment mitigation		
W. Arnold	Investigation of Materials for Mobile Fragment Protection Systems	
F. Johnson	Full-Scale Experiments to Determine Shaped Charge Penetration in Sandbag Constructions from Long Standoff Distances	
C. Pontiroli	Concrete Behavior Under Ballistic Impacts: Effects of Material Parameters to Penetration Resistance and Modeling with PRM Model	

Structural Response		
D. Pope	Gabion Systems Exposed to Blast Pressure Experiental Tests to Validate Numerical Simulations - A Cooperation between Germany and the UK	
M. M. Van der Voort	A Structured Approach to Forensic Study of Explosions: The TNO Inverse Explosion Analysis Tool	
M.G. Oesterle	Internal Blast Effects on Reinforced Concrete Walls using New Rebar Technologies-	
C. Burchfield	Progressive Collapse of a Typical Mid-Rise Reinforced Concrete Building	

Residual Airblast (NATO)		
A. Ohrt	A Comparison of Residual Airblast Environments from Bare and Cased Explosive Charges	
C. Petrovitch	Blast Propagation through Failing RC Walls-	
G. Bessette	Implementation of a Time-Dependent Wall Failure Model into BlastX	
SD Clarke	Bubble-Type' vs 'Shock-Type' Loading from Buried Explosives	
G. Bessette	MineX3D, Fast-Running Model for Predicting Loads from Underbelly Blast	

Ammo analysis and design		
C. Doolittle	The Effects of Gas Pressure Rise Time on Structures - Comparison of Physics Code and Engineering Analyses	
M.M. Van der Voort	An Engineering Model for Hazard Prediction of Ammunition Magazine Doors	
D. Ornai	Upgrading Protection of a Reinforced Concrete Structure Subjected to Internal Explosion	

Blast & SR Prediction		
Y-K Tsai	Energy Based Load-Impulse Diagrams for RC Structual Elements	
T. Yokoyama	Limits to Scaled Distances for SDOF Blast Analyses: Parametric Influences on the Assumption of Pseudo-Static Deflected Shapes	
J. Shin	Estimating Incident and Reflected Air-Blast Parameters: Updated Design Charts	

Penetration Testing (NATO)		
C. Schragen	Investigations of a Dual-Mode Penetrator with Enhanced Breaching Effect	
A. Bongartz	Effects of Medium Caliber Ammunition Against MOUT Targets (Part 1)	
T. Farrand	Effects of Medium Caliber Ammunition Against MOUT Targets (Part 2)	
F. Bohmann	MOUT Target/New Target Building	

Ammo risk mitigation		
D. Ornai	Blast & Fragment Effects and Hazards Resulting from Ammunition Storage According to Safety Standards and Experiments	
M. Von Ramin	Simulating Accidental Explosion of Cased and Stacked Sources in Storages	
E. Bar-on	Minimizing Debris Throw Distance in an Accidentally Exploding Reinforced Concrete Storage Magazine	

Blast prediction		
J. Shin	Verification and Validation of a CFD Code for Modeling Detonations of High Explosives-	
S.E. Rigby	A Review of UFC-3-340-02 Blast Wave Clearing Predictions	
L. Schwer	Air Blast Techniques: Comparisons with Close-in Detonation Experiments	
S. McClennan	Near-field Blast Prediction for Thick Steel-Cased Explosives	
D. Bogosian	Explosive Equivalence for Airblast Calculations-	

Penetration Model Dev't		
S. Greulich	Improved Penetration Methodologies	
A. Bongartz	Development of a Fast Running Penetration Methodology for Brick Walls	
M. McLaughlin	Modeling and Simulation of Non-Homogeneous Layering-	

Load Modeling		
A..J. Enea	Computational Blast Loading and Comparison of a Structure Subjected to a Cased Aluminized Explosive Charge	
C. Burchfield	Assessing the Capabilities to Predict Combined Blast and Fragment Effects	
Y. Fu	Development of Resilient Connections for Blast-Resistant Curtain Wall	

Blast damage		
D. Cormie	Characterizing the Pre-Fracture Response of Glazing to Blast Loads	
C. Morison	Few Degrees of Freedom Analysis of Rectangular Glazing Units Under Blast	
W. Wilkinson	Design of Curved Glass Under Blast Loading	
B. Bewick	Debris Hazards due to Overloaded Conventional Construction Facades	
P. Nussbaumer	Protection Provided by Buildings Against Debris Impact	

Secondary Debris Modeling (NATO)		
K. Kennedy	Predicting Downslope Rubble Propagation Due to Weapon Detonation	
G.W. Wathugala	Full Scale Experiments to Study Secondary Debris Due to Buried Explosives	
A. Doerr	The Assessment of the Secondary Debris Hazards with the Computer Program STG	

Combined Loading		
S. Lan	Reinforced Concrete Slab under Combined Blast and Fragment Loading	
T. Ross	Fragmentation Characteristics of Steel Structures with Low Loading Density for Fast-Running Models	
J.D. Baum	Investigation of Cased Charge Detonation in a Responding Pipe	
O. Soto	Coupled CFD/CSD Simulations of Dust Production by Fragmenting Charges	
R. Cheesman	Diagnostic Techniques for Measuring Combined Blast and Debris Loading on Structures in the Near Field	

Blast testing		
M.O. Sturtzer	Influence of Aluminum Particles Addition on the Effects of High Density Metallic Explosive Charges	
A. Tyas	Experimental Studies of Blast Wave Developmnent and Target Loading from Near-Field Spherical PETN Explosive Charges	
J.K. Gran	Blast Venting in a Shock Tube Blocked by a Thin Diaphragm	
M. Barreto	The AFRL Blastpad 2015: Refinements in Design and Procedures-	

Secondary Debris Consequences (NATO)		
C. Fisher	Scaling Equipment for Defeat from Weapons Effects-	
E. Staubs	Research into Secondary Debris and its Potentially Damaging Effects on Personnel, Infrastructure, and Equipment	
H. Dorsch	Secondary Debris Effects on Personnel-	

Blast mitigation		
E. Mataradze	Development and Testing of an Active Suppression Systems for Reduction of Blast Effect	
H. Ousji	Numerical and Experimental Study of Polyurethane Foam used as Core Material in Sacrificial Cladding for Blast Mitigation	
C.S. Stephens	Scaled Centrifuge Testing of Soil-Filled Barriers for Investigation of Breach Behavior Due to Blast	

UHPC Modeling and test (10A)		
B. Erzar	Ultra-High Performance Concrete Under Shock Loading: Experiments and Modelling-	
M. Stone	Size and Rate Effects of Normal Strength and Ultra-High Performance Concrete Cylinders	
E. Maher	Experimental Frequency Domain Assessment of Direct Shear in NSC and UHPC-	
S. Astarlioglu	Analysis of Normal-Strength and Ultra-High-Performance Concrete Beams under Impact Loads-	

Blast risk modeling		
A. Stolz	Deterministic Consequence Assessment of Urban Spaces due to Blast Loading	
L. Donahue	Correlation between Urban Blast Confinement and Structural Loads for Quick Threat Assessment-	
M. Newberry	Development of the Enhanced Load-Tree Apparatus for Structural Resistance Measurement of Modern Load-Bearing Construction Techniques-	
C. Oswald	FRIDAM Method to Calculate Blast Propagation, Building Damage, and Injuries from Small Internal Explosions-	