

MONDAY, MAY 9, 2016

10:00 AM - 7:00 PM	Registration Open
10:00 AM - 4:00 PM	Exhibitor Move-In & Poster Set-Up
5:00 PM	Exhibit Hall Open
5:00 PM - 7:00 PM	Networking Opening Reception in Exhibit Hall

TUESDAY, MAY 10, 2016

8:00 AM - 6:20 PM	Registration Open
9:00 AM - 9:10 AM	Welcome & Administrative Remarks <i>Clive Woodley and Ian Cullis</i>
9:10 AM - 9:35 AM	Keynote Address
9:35 AM - 10:15 AM	Keynote Address - <i>Jutland, 100 Years On - The Interior Ballistics Advances in Time</i> <i>Don Carlucci, U.S. Army ARDEC, USA; Mike Nusca, ARL, USA; Clive Woodley, QinetiQ, UK</i>
10:00 AM - 6:20 PM	Exhibit Hall Open
10:15 AM - 10:35 AM	Networking Coffee Break
10:35 AM - 11:20 AM	Keynote Address - <i>Penetration Mechanics: Analytical Modeling</i> <i>Charles Anderson, CEA, USA</i>
11:20 AM - 12:00 PM	Keynote Address - <i>Shaped Charges: What Has Been Done and Where Do We Stand?</i> <i>Pierre-Yves Chanteret, France</i>
12:00 PM - 12:15 PM	IBS Business Announcements
12:15 PM - 1:50 PM	Networking Lunch
1:55 PM - 2:35 PM	Mons Meg Oral Session <i>Chaired by Zhongyuan Wang and Dennis Baum</i>
1:55 PM	509 - The Ballistics Performance of the Bombard Mons Meg <i>Ian Lewtas, QinetiQ, UK</i>
2:15 PM	355 - Some Features and Applications of Ballistics Science and Technology in China <i>Li Baoming, China Academy of Ordnance, China</i>

2:35 PM - 3:55 PM

Terminal Ballistics (TB1) Oral Session

Chaired by Charles Anderson and Nicholas Lynch

2:35 PM

546 - A Numerical Investigation on the Response of Thick Ultra-High Molecular Weight Polyethylene Composite to Ballistic Impact

Nguyen Long, RMIT University, Australia

2:55 PM

583 - Ballistic Impact Response Comparisons Between Ultra-High-Molecular-Weight Polyethylene (UHMWPE) and Kevlar Panels

Timothy Zhang, TKC Global, USA

3:15 PM

624 - Transverse Impact on S-2 Glass Yarns: Analysis of Crimp and Other Effects on the Critical and Transverse Wave Velocities

Sidney Chochron, SWRI, USA

3:35 PM

659 - On the Shock Response of an Ultra-High-Molecular-Weight Polyethylene Composite

Gareth Appleby-Thomas, Defence Academy, UK

3:55 PM - 6:00 PM

Explosion Mechanics Poster Session (P1)

Chaired by Ernie Baker and Philip Church

3:55 PM - 4:15 PM

Networking Coffee Break

4:15 PM - 6:20 PM

Interior Ballistics and Launch Dynamics (IB LD1) Oral Session

Chaired by Clive Woodley and Li Baoming

4:15 PM

531 - Measurement of In-Bore Side Loads and Comparison to First Maximum Yaw

Don Carlucci, U.S. Army ARDEC, USA

4:35 PM

614 - High Velocity Gun Launch Fragment Impact Studies and How Events Can Go Very Wrong!

John Stubberfield, QinetiQ, UK

4:55 PM

505 - Innovative Nitrogen-Doped Boron Propellants

Thelma Manning, U.S. Army RDECOM, ARDEC, USA

5:15 PM

391 - Microcellular Foaming of Cellulose Acetate Binder-Based Combustible Objects by Supercritical CO₂

Weitao Yang, Xian Modern Chemistry Institute, China

5:35 PM

420 - Research on Combustion Characteristic Between Plasma Ignition and High-Energy Nitramine Gun Propellant

Jiangbo Zhang, Xian Modern Chemistry Institute, China

5:55 PM

526 - Mass Asymmetry Assessment Using Launch Video Analysis

Ryan Decker, U.S. Army RDECOM, ARDEC, USA

6:15 PM

Adjourn

WEDNESDAY, MAY 11, 2016

8:00 AM - 4:50 PM	Registration Open
8:30 AM - 4:50 PM	Exhibit Hall Open
9:00 AM - 9:05 AM	Administrative Remarks
9:05 AM - 12:15 PM	Interior Ballistics and Launch Dynamics Poster Session (P2) <i>Chaired by Don Carlucci and John Stubberfield</i>
9:05 AM - 10:25 AM	Exterior Ballistics (EB1) Oral Session <i>Chaired by Pierre Wey and Zhongyuan Wang</i>
9:05 AM	339 - Innovative Course Correction Devices: MANEGE Program <i>Roxan Cayzac, Nexter Munitions, France</i>
9:25 AM	663 - Optimizing Guidance Strategy for Gun Launched Underactuated Weapons <i>Mark Ilg, Army Research Laboratory, USA</i>
9:45 AM	392 - On Resonance of Dual-Spin-Stabilized Projectiles Equipped with Canards <i>Sijiang Chang, Nanjing University of Science and Technology, China</i>
10:05 AM	570 - Supersonic Wake Flow Analysis of Finned Projectile Afterbodies at Various Spin Rates <i>Stephan Weidner, ISL, France</i>
10:25 AM - 10:55 AM	Networking Coffee Break
10:55 AM - 12:15 PM	Vulnerability & Survivability (V&S1) Oral Session <i>Chaired by Francisco Galvez and Deborah Carr</i>
10:55 AM	364 - Collateral Concerns in Conjunction with Weapon Effects <i>Heinrich Dorsch, IABG mbH, Germany</i>
11:15 AM	538 - Effect of Container Geometry on the Blast Mitigation Provided by Fluids <i>Huon Bornstein, DSTO, Australia</i>
11:35 AM	613 - Fuel Tank Vulnerability to Shaped Charge Jet <i>Thomas Hartmann, NUMERICS GmbH, Germany</i>
11:55 AM	677 - Injury Characterization Due to Penetrating Projectiles <i>Christopher Freitas, SWRI, USA</i>
12:15 PM - 1:50 PM	Networking Luncheon

1:50 PM - 4:50 PM

Exterior Ballistics Poster Session (P3)

Chaired by Gregory Oberlin and Vladimir Cech

1:50 PM - 3:10 PM

Explosion Mechanics (EM1) Oral Session

Chaired by Paul Locking and Frikkie Mostert

1:50 PM

346 - Gurney Velocity Relationships

Paul Locking, BAE Systems, UK

2:10 PM

489 - Characterization of Shaped Charge Jet Erosion in Drilling Mud

Dennis Baum, Lawrence Livermore National Laboratories, USA

2:30 PM

510 - Shaped Precursor-Charge for a Multi-Effects Warhead System

Werner Arnold, MBDAS-TDW, Germany

2:50 PM

615 - Fragment Spatial Distribution of Continuous and Discontinuous Multi-Contoured Warheads

Kusumkant Dhote, ARDE, India

3:10 PM - 3:30 PM

Networking Coffee Break

3:30 PM - 4:50 PM

Terminal Ballistics (TB2) Oral Session

Chaired by Matthias Wickert and Dinesh Pal

3:30 PM

382 - Ballistic Resistance of Semi-Infinite and Finite-Thickness Adobe Targets

Andreas Heine, Fraunhofer EMI, Germany

3:50 PM

501 - Numerical Study of the Trajectory Stability of Lateral-Abnormal Projectiles Penetrating Soil at Small Angles of Attack

Qiran Sun, Nanjing University of Science and Technology, China

4:10 PM

661 - Impact Response of Advanced Transparent Materials

Ghatu Subhash, University of Florida, USA

4:30 PM

630 - Material Science Behind the Development of a New, Shapeable, Boron Carbide, Armour Material

Ian Crouch, Defence Materials Technology Centre, Australia

4:50 PM

Adjourn

7:00 PM - 10:00 PM

Reception at Edinburgh Castle

THURSDAY, MAY 12, 2016

8:00 AM - 4:50 PM	Registration Open
8:30 AM - 4:50 PM	Exhibit Hall Open
9:00 AM - 9:05 AM	Welcome and Administrative Remarks
9:05 AM - 12:15 PM	Terminal Ballistics Poster Session (P4) <i>Chaired by Trent Shackleford and Manfred Salk</i>
9:05 AM - 10:25 AM	Interior Ballistics and Launch Dynamics (IB LD2) Oral Session <i>Chaired by Thelma Manning and Joseph South</i>
9:05AM	672 - Influence of Chamber Misalignment on Cased Telescoped (CT) Ammunition Accuracy <i>Daniel Corriveau, Defence R&D, Canada</i>
9:25 AM	394 - Simulation of Closed Vessel Propellant Combustion Using the 2D ICT-Cellular-Combustion-Algorithm <i>Sebastian Wurster, Fraunhofer Institute for Chemical Technology, Germany</i>
9:45 AM	347 - Ambient Gas Pressure Effects on the Ignition of Pyrotechnic Countermeasure Decoy Flares <i>Clive Woodley, QinetiQ, UK</i>
10:05 AM	350 - Transient Burning Rate Model of Solid Propellant in Electrothermal-Chemical Launch <i>Yan-jie Ni, Nanjing University of Science and Technology, China</i>
10:25 AM - 10:55 AM	Networking Coffee Break
10:55 AM - 12:15 PM	Exterior Ballistics (EB2) Oral Session <i>Chaired by Marcelo Martinez and Mark Ilg</i>
10:55 AM	367 - Large-Eddy Simulation of a Turbulent Coanda Jet in an External Flow <i>Mickael Zeidler, Nexter Munitions, France</i>
11:15 AM	650 - Numerical Virtual Flight Technology and its Application in the Stage Separation Simulation <i>Ruyan Jia, National University of Defense Technology, China</i>
11:35 AM	381 - Improved Theory of the Generalized Meteo-Ballistic Weighting Factor Functions and Their Use <i>Vladimir Cech, Oprox, Inc., Czech Republic</i>
11:55 AM	440 - BALCO 6/7 DOF Trajectory Model <i>Pierre Wey, ISL, France</i>
12:15 PM - 1:50 PM	Networking Luncheon

- 1:50 PM - 4:50 PM Vulnerability and Survivability Poster Session (P4)
Chaired by Ian Crouch and Andreas Heine
- 1:50 PM - 3:10 PM Terminal Ballistics (TB3) Oral Session
Chaired by Amer Hameed and Mark French
- 1:50 PM 337 - Ballistic Testing of Australian Bisalloy Ultra-High Hardness Steel
Shannon Ryan, DSTO, Australia
- 2:10 PM 388 - Penetration and Ignition Performance of Reactive Fragments
Tracy Vine, QinetiQ, UK
- 2:30 PM 407 - Effective Depth-of-Penetration Range Due to Hardness Variation for Different Lots of Nominally Identical Target Material
Patrick Frueh, Fraunhofer EMI, Germany
- 2:50 PM 548 - Modeling of Fragment-Impacts Into Aluminum Plates
Teresa Fras, ISL, France
- 3:10 PM - 3:30 PM Networking Coffee Break
- 3:30 PM - 4:50 PM Explosion Mechanics (EM2) Oral Session
Chaired by Pierre Chanteret and Adam Wisniewski
- 3:30 PM 354 - Evaluation of the Effect of an Explosive Charge Closed to a Steel Structure Plate
Leriché Denis, DGA/Tn, France
- 3:50 PM 542 - Development of a Novel Lightweight Recoilless EOD Disruptor
Douglas Kirkpatrick, Dstl, UK
- 4:10 PM 692 - Investigation On the Use of PETN Based Sheet Explosive in Explosive Hardening and Welding
Dinesh Pal, TBRL, India
- 4:30 PM 666 - Armor Panel Deformation Due to Simulated Land Mine Blast Testing and Simulation
James Walker, SWRI, USA
- 4:50 PM Adjourn
- 6:30 PM - 9:30 PM Symposium Banquet at National Museum Scotland

FRIDAY, MAY 13, 2016

8:00 AM - 1:35 PM	Registration Open
9:00 AM - 9:05 AM	Welcome and Administrative Remarks
9:05 AM - 10:25 AM	Interior Ballistics and Launch Dynamics (IB LD3) Oral Session <i>Chaired by Nicholas Eches and Axel Saettler</i>
9:05 AM	592 - Simulation of Asymmetric Shot Start in Small Caliber Ammunition <i>Michael Minnicino, ARL, USA</i>
9:25 AM	581 - Continuous Solvent-Free Extrusion of Propellant for 35 mm Caliber Ammunition <i>Chris van Driel, TNO, Netherlands</i>
9:45 AM	372 - 3D Numerical Simulation and Analysis of Railgun Gouging Mechanism <i>JinGuo Wu, National Key Laboratory of Transient Physics, China</i>
10:05 AM	617 - A Novel Technique to Measure Small Caliber Projectile Balloting <i>John Ritter, ARL, USA</i>
10:25 AM - 10:55 AM	Networking Coffee Break
10:55 AM - 12:15 PM	Terminal Ballistics (TB4) Oral Session <i>Chaired by Sidney Chocron and Tom Mason</i>
10:55 AM	556 - Combined Approach for Characterization of Shaped Charge Jet Penetration <i>Vitaly Leus, Rafael, Israel</i>
11:15 AM	477 - Two-Channel Projectile Deceleration History Registration During Their High-Speed Motion with Erosion in Target <i>Mikhail Sotskiy, Bauman Moscow State Technical University, Russia</i>
11:35 AM	446 - Development and Validation of High Strain Rate Model for Water Ice <i>Philip Church, QinetiQ, UK</i>
11:55 AM	636 - Experimental Evaluation of Held's Criteria (V2D) vs. Penetration for a Small Shaped Charge Warhead <i>Arthur Daniels, U.S. Army ARDEC, USA</i>
12:15 PM - 1:30 PM	Presentation of Awards Louis and Edith Zernow Award <i>Tribute to Lou Zernow by Dennis Baum and Richard Zernow</i> <i>Presentation of Award by Lenore Zernow</i> Rosalind & Pei Chi Chou Award for Best Young Author Neill Griffiths Award for Best Shaped Charge Warhead Paper SABO Award for Best Poster Paper
1:30 PM - 1:35 PM	Invitation to the 30 th International Symposium on Ballistics <i>Long Beach, California, USA</i>
1:35 PM	Symposium Adjourned
1:40 PM - 2:15 PM	Society Business Meeting