



31st ISB 2019 | PROGRAMME AT GLANCE

DAY 1 MONDAY 4th November 2019		
TIME	PROGRAMME	THEME
8:00AM-7:00PM	Registration Open	
Tutorials (6 lectures)		
09:00AM-10:15AM	Types of initiators, mechanism of functioning, safety, reliability and Hazards <i>Dr. James G. Stuart, President, Franklin Applied Physics, Oaks, USA</i>	
10:15AM-10:25AM	TEA & COFFEE	
10:25AM-11:40AM	Ordnance systems for Aerospace Applications <i>Shri Baby Abraham, Sc, OS, GD HESG/AOAE, Vikram Sarabhai Space Centre, Trivandrum</i>	
11:40AM-12:55PM	Advances in High Energy Materials Technology <i>Shri KPS Murthy, Director, HEMRL</i>	
01:00PM-01:30PM	LUNCH	
01:30PM-02:45PM	Interior Ballistics of Guns <i>Dr Clive Woodley, Imperial College, London, Ex-President IBS</i>	
02:45PM-03:00PM	TEA & COFFEE	
03:00PM-04:15PM	Terminal Ballistics <i>Dr Manjit Singh, Distinguished Scientist, Director TBRL, DRDO, Chandigarh, India</i>	
04:15PM-05:30PM	Detonation and Deflagration in High Energy Materials <i>Prof. K Ramamurthi, Formerly of IIT Madras, Department of Mechanical Engineering</i>	
6:00PM-8:00PM	Inaugural Ceremony (3 talks) <i>Keynote address by Dr Ernest Baker - Technical Specialist Officer (Munitions Safety Information Analysis Center)</i>	
8:00PM-10:00PM	Welcome Dinner at Venue (HICC)	
DAY 2 TUESDAY 5th November 2019		
8:00AM-5:30PM	Registration Open	
8:30AM-8:40AM	Welcome & Administrative Remarks	
8:40AM-8:50AM	About ISB by Convenor	
8:50AM-9:30AM	Plenary Lecture on TB <i>Prof. dr hab. eng. Adam Wisniewski (Military Institute of Armament Technology)</i>	
9:30AM-5:30AM	Exhibition Open	
9:30AM-11:00AM	General Oral Session (G1) (6 Oral Presentations) <i>Co-Chair : Pravendra Kumar, Clive Woodley</i> 37702045 - Design and Geometric Optimisation of Solid Propellant Grain for Large Motors - <i>P Sunitha, India</i> 37281677 - Numerical simulation investigation on the deep-closure cavities of hollow cylinders during vertical water-entry process - <i>Yu Hou, China</i> 37460089 - Modeling Trajectories for Optimal Bending Body Configurations to Evaluate Guided - <i>Paul Justin, United States</i> 37815691 - Analysis of Global Momentum Transfer due to Buried IED Detonation - <i>Heider Norbert, Germany</i> 37563959 - Visualization and quantitative analysis of muzzle flow and projectile in flight flow using Background Oriented Schlieren - <i>MOUMEN Abdelhafidh, Belgium</i> 37469865 - On the study of automated identification of firearms through associated striation marks - <i>Mahanta Lipi B, India</i>	
11:00AM-11:20AM	TEA BREAK	
11:20AM-12:50PM	Terminal Ballistics Oral Session (TB1) (6 Oral Presentations) <i>Co-Chair : Dr. Manjit Singh, Sidney Chocron (USA)</i> 38706529 - Re-visit the Mass-Flux Model for Explosive Reactive Armor Including the Effect of Plate's Thickness - <i>Misiuk Lev, Israel</i> 38603881 - Target Flow Fields and Penetration Resistance for Pointed Projectiles - <i>Walker James, United States</i> 37915895 - Dynamic back face deformation of a combat helmet upon oblique impact of a 7.62x39 mm PS projectile - <i>Seidl Marina, France</i> 37953777 - Resistance of steel-elastomer laminate armors to impacts of small-caliber projectiles - <i>Teresa Fras, France</i> 38160295 - Ballistic Impact Damage and Fragmentation in Different Types of Glass and Glass Ceramic - <i>Strassburger Elmar, Germany</i> 38161517 - Study on the forming performance of central perforated EFP warhead - <i>Niu Wenyu, China</i>	Launch Dynamics & Interior Ballistics Poster Session (P1) <i>Co-Chair : BV Papa Rao (India), Zetu Jiba</i>
12:50PM-01:50PM	LUNCH BREAK	

1:50PM–3:20PM	<p>Interior Ballistics Oral Session (IB1) (6 Oral Presentations) <i>Co-Chair : Baoming Li (China), Bernd Dutschke (Germany)</i></p> <p>37342777 - Gradient printing of energetic materials - Straathof Michiel, Netherlands</p> <p>38980257 - Electrodynamic response study on railgun launcher based on electromechanical coupling model - Xiao Hongcheng, China</p> <p>37896343 - Three-dimensional Numerical Fluid Flow Simulation of the Interior and Transitional Ballistics Process - Wölbinger Roman, France</p> <p>38628321 - Erosion of different propellants on the cobalt-based alloy coating for gun barrel - Men Xiangdong, China</p> <p>37319559 - Recent update on the multi-physical model of electromagnetic railgun - Lin Qinghua, China</p> <p>37530965 - A Novel Experimental Method to Measure Instantaneous Pressure inside Power Cartridge using Velocity Test Rig and Projectile Velocity by Doppler RADAR - Bhupesh Parate</p>	<p>Explosion Mechanics Poster Session (P2) <i>Co-Chair : Elmar Strassburger (Germany), Arun Agarwal (India)</i></p>
3:20PM–3:40PM	TEA BREAK	
3:40PM–5:25PM	<p>Exterior Ballistics Oral Session (6 Oral Presentations) <i>Co-Chair : Dr P K Pradhan(India), Daniel Corriveau (Canada)</i></p> <p>37702045 - Coupled Simulations for a Canard - Controlled Projectile with Thrust-Vector Control - Sahu Jubaraj, USA</p> <p>37429539 - Global Optimization of Aerodynamic Coefficient Identification Through Combining Multiple Measured Data of Projectiles - Chang Sijiang, China</p> <p>38755409 - A Novel Approach for Launch Opportunity Calculation for High Inclined Orbit Mission - Rohit Kumar Singh, India</p> <p>38122413 - In-flight Spin Measurement of High Velocity Projectile using Infra-Red Imaging Technique - Sudeshna Mohapatra, India</p> <p>37500415 - Guidance of medium caliber projectiles by using an impulse thruster and a navigation module based on magnetometer - Changey Sebastien, France</p> <p>37954999 - Spin-Stabilized Projectile Aerodynamic Coefficients Reconstruction using Mono and Multi Fidelity Surrogate Models - Arnoult Guillaume, France</p>	<p>Vulnerability and Survivability Poster Session (P3) <i>Co-Chair : Norbert Heider (Germany), Erika Matheis</i></p>
7:00PM Onwards	Incredible India and Banquet at Hotel ITC Kohenur (Transportation will be provided)	
DAY 3 WEDNESDAY 6th November 2019		
8:00AM–5:30PM	Registration Open	
8:30AM–9:00AM	Plenary Lecture on EM <i>Dr. Dennis W. Baum, PhD - Associate Program Director, Security Applications/WCI-B Division (Lawrence Livermore National Laboratory)</i>	
9:00AM–10:30AM	<p>Terminal Ballistics Oral Session (TB2) (6 Oral Presentations) <i>Co-Chair : L Koene (Netherlands), James Walker (USA)</i></p> <p>38598993 - Modeling on the shock wave in spheres hypervelocity impact on flat plates - Chen Xiaowei, China</p> <p>37278011 - Investigation on the Penetration Performance and Penetration Mechanism of 93W Alloys Fragments - He Jia-nan, China</p> <p>37526077 - Ballistic performance of high strength steel and aluminum plates against spherical tungsten fragments - Wang Gengsheng, Sweden</p> <p>38112637 - Controlled Fragmentation Warhead for UAV Applications - Hullash Narayan Behera, India</p> <p>38690643 - Thin Flyer Impact Initiation Study of Ultrafine CL-20/HMX Co-crystal Explosive by Varying Barrel Diameter - Shallu Gupta, India</p> <p>37431983 - Effect of resin on laminate ballistic performance subjected to deformable and non-deformable projectiles - P Rama Subba Reddy, India</p>	<p>Exterior Ballistics Poster Session (P4) <i>Co-Chair : Prof. Zhonyuan Wang (China), Vladimir Cech (Czech Republic)</i></p>
10:30AM–10:50AM	TEA BREAK	

10:50AM–12:20AM	<p>Vulnerability & Survivability Oral session (6 Oral Presentations) <i>Co-Chair : Dr. James Stuart, Frederik Coghe (Belgium)</i></p> <p>37315893 - Efficiency of different cage armour systems - Coghe Frederik, Belgie</p> <p>37489417 - Ballistic Factors of Behind Helmet Blunt Trauma Skull Fracture - Matheis Erika, US</p> <p>38190845 - Comparative Tests with 'Pk17dynA' for an Integrated Assessment of Ballistic Backface Deflections on Combat Helmets - Grobert Steffen, Germany</p> <p>37450313 - Parametric Study of Active Counter Impulse Rocket System - Shapira Nimi, Israel</p> <p>38761519 - Optimization of Parameters for Blast Inflicted Deflection on Kinetic Energy Projectile - Pranav Pandey, india</p> <p>37270679 - Capability to Absorb Projectile Kinetic Energy by Structures Made in Additive Manufacturing Technology - Wisniewski Adam, Poland</p>	<p>Terminal Ballistics Poster Session(P5) <i>Co-Chair : Ewa Liden (Sweden), Teresa Fras (France)</i></p>
12:20AM - 13:00PM	LUNCH	
01:30PM Onwards	<p>Visit to Hyderabad Heritage Tour(Half Day) Golkonda Fort Qutubshahi Tombs Hi Tea at Hyderabad Deccan Golf Course</p>	
07:00PM-08:00PM	<p>Presentation of Awards</p> <p>Louis and Edith Zernow Award Rosalind and Pei Chou Young Author Award Neill Griffiths Award for Best Shaped Charge Warhead Paper SABO Award for Best poster paper Student Awards for PhD student at time of ISB</p>	
07:00PM Onwards	Gala Dinner at Chowmahalla Palace (Transporation will be provided)	
DAY 4 THURSDAY 7th November 2019		
8:00AM–5:30PM	Registration Open	
8:30AM–9:00AM	<p>Plenary Lecture on LD/IB by Dr. Baoming Li (National Key Laboratory of Transient Physics) <i>Co-Chair : Prof. K. Ramamurthi (India), Ernie Baker (USA)</i></p>	
9:00AM–10:30AM	<p>Explosion Mechanics Oral Session (6 Oral Presentations) <i>Co-Chair : Prof. K. Ramamurthi (India), Ernie Baker (USA)</i></p> <p>37251127 - Study on the Influence of wave-shaper on the damage elements formation of PELE/EFP mode conversion warhead - Yin Jianping, China</p> <p>37523633 - Fragmentation from Detonations and Less Violent Munition Responses - Baker Ernest, Belgium</p> <p>37359885 - Thin Flyer Impact Initiation Threshold Comparison of HNS-IV, CL-20, CL-20/HMX COCRYSTAL in Slapper Detonator - Pal Dinesh Kumar Balkishan, India</p> <p>37637279 - Defeating UAVs through Novel Hpem Effectors - Graswald Markus, Germany</p> <p>38091863 - Evaluation of the Dynamic Fracture Characteristics of Shaped Charge Jets at Different Strains rates and known Initial Lin - Majiet Fakhree, South Africa</p> <p>37483307 - Effect of HE Grain Size on Shaped Charge Jets - Thomas Hartmann, Germany</p>	<p>Launch Dynamics & Interior Ballistics Poster Session (P6) <i>Co-Chair : Dr. Dasharath Ram, A C Sharma (India)</i></p>
10:30AM–10:50AM	TEA BREAK	
10:50AM-12:20PM	<p>Launch Dynamics & Interior Ballistics Oral (6 Oral Presentations) <i>Co-Chair : Dr. Y. SreenivasRao (India), Bartosz Fikus (Poland)</i></p> <p>38864167 - Analytical and Experimental Studies on Sabot Separation in Intermediate Ballistic Regimes - MR Sreelal, India</p> <p>37807137 - Research on Momentum Transfer in Simple Railgun - Yingtao Xu, China</p> <p>38118747 - A Numerical Analysis of the In-Bore Motion of Small Caliber Projectiles - Dutschke Bernd, Germany</p> <p>38855613 - Numerical Simulation of the In-bore Motion of a typical artillery shell and investigation of balloting - Panda Tapas, India</p> <p>37694713 - Soft Recovery of Gun Launched Supersonic Projectiles in long column of Compressed Air & Water - Trigunayak Ankur, India</p> <p>38139521 - Flexibility analysis of cylindrical panels of a hypersonic launch vehicle in a ballistic trajectory for separation loads - G Jayanthi, India</p>	<p>Terminal Ballistics Poster Session (P7) <i>Co-Chair : Phil Pitcher (UK), Thomas Hartmann (Germany)</i></p>

12:20PM–1:50PM	Terminal Ballistics Oral Session (TB3) (6 oral Presentations) <i>Co-Chair : Prateek Kishore (India), Marina Seidl (France)</i> 37560293 - Bullet penetration into medium density fibreboard targets - Koene L, Netherlands 38834839 - Trajectory of Oblique Penetration into Concrete Targets by Rigid Projectiles with Different Structure Characteristics - Gao Xudong, China 38711417 - High strain rate deformation behavior of materials: effect of crystal structure, grain size, microstructure and texture - Mishra Bidyapati, India 38746855 - Effectiveness of Different Shear Thickening Fluids in Reducing Back Face Signature (BFS) of Body Armor against Bullet Im - Verma Sanjeev, India 37453979 - Blast Mitigation Study in Composite Material - Sandhu Inderpal Singh, India 37798583 - Using of fluoropolymer materials to defeat lightly armored and easily vulnerable targets - Khmelnikov Evgeny, Russian Federation	Exterior Ballistics Poster Session (P8) <i>Co-Chair : Siziang Chang (China), Ryan Decker (USA)</i>
1:50PM –2:30PM	LUNCH	
2:30PM– 4:00PM	Explosion Mechanics Oral Session (6 Oral Presentations) <i>Co-Chair : Raja Babu (India), Dennis Baum (USA)</i> 38073533 - Effect of confinement on the performance of fuel rich explosive charges - Katore Mahesh, India 38530561 - Exploding Bridge-Wire Initiation Performance of Ultrafinecl-20 Explosive - Jindal Deepika, India 37232797 - Effect of Detonation Initiation Methods on EFP Warheads - Kumar Mukesh, India 37981883 - Liner collapse related issues in the design of low L/D shaped charges - Sekharan Harikrishnan, India 38259277 - Code for the modeling of Shaped Charge - Narang Jaspreet Kaur, India 38545225 - Interface Study of Explosive welded AL-Steel Joint using Ultrasonic Phased Array Technique - Sherpa Bir Bahadur, India	
4:00PM–4:20PM	TEA BREAK	
4:20PM–5:50PM	Launch Dynamics & Interior Ballistics (6 Oral Presentations) <i>Co-Chair : Michiel Straath, Sri Hari(India)</i> 38842171 - Analysis of Effects of Various burn rate Evaluation Techniques and Process Variability on BEM Burn rate Measurement - Sharma Ashutosh, India 38080865 - Analysis of a Novel Double Funnel Port Solid Rocket Propellant Grain Configuration for Achieving Improved Neutrality - Jain Sunil, India 38644207 - Blow-by Erosion Model for the Saddle-Type Degradation of High Pressure Gun Bore - Gan Lin, China 38525673 - Preliminary numerical and experimental investigations of 9 mm pistol bullet and barrel interaction - Fikus Bartosz, Poland 38636875 - Research Progress on Application of Refractory Metals and Superalloys in Gun Barrels - Tao Fenghe, China 38684533 - Coating processes towards Selective Laser Sintering of Energetic Material composites - Jiba Zetu, South Africa	Explosion Mechanics Poster Session (P7) <i>Co-Chair : Paul Locking (UK), Pengwan Chen</i>
DAY 5 FRIDAY 8th November 2019		
8:00AM–5:30PM	Registration Open	
8:30AM–10:00AM	Exterior Ballistics Sessions (6 oral ppt) <i>Co-Chair : Mark I'II (USA), Jubaraj Sahu (USA)</i> 38149297 - Effect of Fin Cant Angle on Coning Stability of an Unguided Artillery Rocket - Amalraj Anandaraj, India 38157851 - Reentry Trajectory Optimization of Hypersonic Missile using Hybrid Adaptive GA and SQP Algorithm - Ni Hao, China 38739523 - Parametric Profiling of Water -Jet Projectiles for EOD Disruptor using High-Speed Imaging Technique - Mahto Viwek, India 37372105 - A Comparison of Piecewise Cubic Hermite Interpolating Polynomials, Cubic Splines and Piecewise Linear Functions for the - Rabbath C.A., Canada 38431579 - Control Force and Moment Generation using Vortex Generators for Agile Munitions - Narayanaswamy Venkat, United States 37681271 - Influence of the Transonic Crossing for Precision Ammunition - De Briey Véronique, Belgique	
10:00AM–10:20AM	TEA BREAK	
10:20AM–11:30AM	Presentation Ceremony	
11:30AM–11:40AM	Invitation to 32nd ISB	
11:40AM–1:00PM	Social Business Meeting	
1:00PM–2:00PM	LUNCH	
2:00PM Onwards	Symposium Adjourned	