

MONDAY 29 JUNE 2026

Registration & Dinner Reception Venue: Block EA Lobby

17:30–20:30 | Registration & Dinner Reception

TUESDAY 30 JUNE 2026

Plenum – Invited Lecture 1 Venue: Engineering Auditorium – Chair: Victor Shim

09:00–09:30 | Welcome – **Victor P.W. Shim** (NUS)

09:30–10:10 | **Wesley Cantwell** (Khalifa University)
Energy absorbing properties of composite materials

10:10–11:00 | PHOTO-TAKING & TEA BREAK

Parallel sessions 11:00–12:20

	Session A1 - Blast loading and response Venue: EA-06-02 Chair: Andy Tyas	Session A2 - Dynamic material behaviour and constitutive modelling Venue: EA-06-03 Chair: Sebastian Heimbs	Session A3 - Impact absorption and crashworthiness Venue: EA-06-04 Chair: Cliff Butcher	Session A4 - Projectile penetration and perforation Venue: EA-06-05 Chair: Weinong Chen
11:00–11:20	044 - Blast and structural numerical analysis of accidental explosions during the hydrogen operation of the Large Gun of Fraunhofer EMI Stefano Signetti , A. Klomfass, W. Riedel, R. Putzar, P. Müller, A. Heine (Fraunhofer EMI)	042 - Determination of the Taylor-Quinney Coefficient from Strain and Temperature Measurements in Tensile SHB Tests Amos Gilat , Jarrod L Smith, Jeremy D Seidt, Carter J Fietek (The Ohio State University)	029 - Behaviour of steel connections subjected to extreme loading conditions Magnus Langseth (SIMLab, NTNU)	032 - Advanced ballistic protection concepts through experiment–simulation correlation and optimization Giovanni Garofalo , Patrice Longère, Kamel Moussaoui (ISAE-SUPAERO)
11:20–11:40	182 - Optimisation and Experimental Validation of Blast Door Panels with Conventional and Advanced Core Configurations Paolo Del Linz , Le Shen, Sherlene Ng (Singapore Institute of Technology)	082 - High-Cycle Fatigue Modelling of Microarchitected Lattices Sihao Han (University College London, South China University of Technology), I. Christodoulou, PJ Tan (University College London)	067 - Mechanical behaviour of interpenetrating phases composites 316L/PDMS under dynamic loading Paul Jabin Echeveste (University of Bordeaux, CEA), L. Le Barbenchon, L. Heraud (University of Bordeaux, CEA), A. Core (CEA), P. Viot (University of Bordeaux)	156 - Penetration Resistance of Cavity Structures against Shaped Charge Jets Junzhong Zhang , Zihao Wang, Hang Zheng, Zhijun Zheng (USTC)

11:40–12:00	090 - Localised blast loadings of functionally graded metallic plates Ye Yuan , Qiang Suo, Yifan Huang, Yan Liu (Beijing Institute of Technology)	150 - Experimental techniques and dynamic behavior of TPMS lattice structures under high strain rate loading Xinpei Zhang, Yuanyuan Ding , Kebin Li, Mingjun Cui, Yuxuan Zheng (Ningbo University)	155 - A plate-based shock isolator: Tunable nonlinear restoring forces enabled by boundary control Yuan Li , Y.D. Zhu (USTC), S.F. Liao (Institute of Fluid Physics, China Academy of Engineering Physics), Z.J. Zheng (USTC)	255 - Penetration Behavior and Configuration Design of Long-Rod Projectiles under Damage Regulation Shuangqi Li , Yiding Wu, Xinyu Sun, Bingzhuo Hu, Wencheng Lu, Guangfa Gao (Nanjing University of Science and Technology)
12:00–12:20	049 - Arching Effects in Masonry Walls Subjected to Blast Idan E. Edri (Technion - Israel Institute of Technology)	085 - Electromagnetic Hopkinson Bar: Basic Principles and Application Yazhou Guo , Ning Li (Northwestern Polytechnical University)	170 - Structural topology optimization of honeycomb sandwich panel under ship side collision impact Guijie Shi (Shanghai Jiao Tong University), Yiqin Gong, Dawei Gao (University of Shanghai for Science and Technology)	147 - Homogenized modeling of cumulative kill probability for aircraft under multi-munition attacks Yuxiang Feng , Yuan Li, Tao Suo (Northwestern Polytechnical University)
12:20–13:30	LUNCH - Venue: EA Lobby			
Plenum – Invited Lecture 2 Venue: Engineering Auditorium – Chair: Magnus Langseth				
13:30–14:10	Christian C. Roth (ETH Zurich) From Data Scarcity to Autonomous Discovery: High-Throughput Thermo-Mechanical Testing and Constitutive Modeling under Extreme Loading			
14:10–14:20	Session Transition (Move to 6th Floor)			
Parallel sessions 14:20–17:50				
	Session B1 - Blast loading and response Venue: EA-06-02 Chair: S. Das Adhikary	Session B2 - Dynamic material behaviour and constitutive modelling Venue: EA-06-03 Chair: Paolo del Linz	Session B3 - Artificial Intelligence and Machine Learning in impact/dynamic stress analysis Venue: EA-06-04 Chair: Yuanyuan Ding	Session B4 - Hypervelocity impact Venue: EA-06-05 Chair: Joseph Morton
14:20–14:40	078 - Damage Evolution and Flexural Residual Properties of GFRP Laminates Clamped in Two Sides and subjected to Air-blast S. Mashau, C. J. von Klemperer, Steeve Chung Kim Yuen , G. S Langdon (University of Cape Town)	185 - Masonry Walls under Dynamic Loading – Analysis of two Lightweight Retrofitting Systems Christoph Roller , Kai Fischer (Fraunhofer EMI)	192 - A Data-Driven Framework for Rapid Impact Deformation Prediction X. Zhang (Zhejiang University, Zhejiang University of Science and Technology), S.Y. Chen (Swinburne University of Technology), Guoxing Lu (Zhejiang University)	040 - Space Environment Effects on Hypervelocity Impact Behavior of High Heat-resistant Polyimide CFRP Masahiro Nishida , T. Tsukiokaa, M. Nagayoshi (National Defense Academy), Y. Ishida, Y. Kimoto (Japan Aerospace Exploration

				Agency)
14:40–15:00	<p>158 - Anti-blast performances of various auxetic sandwich panels Guojie Chen, Kefeng Peng, Yuan Li, Baixue Chang, Zhijun Zheng (USTC)</p>	<p>149 - Influence of Strain Rate on Mechanical Properties of Ultra-high Molecular Weight Polyethylene Yangbo Guo (NUS), A. Yew, K. Chua (Singapore General Hospital), V.P.W. Shim (NUS, Ningbo University)</p>	<p>135 - Machine learning-aided prediction and customization on mechanical response and wave attenuation of multifunctional kiri/origami metamaterials Sihao Han, C.L. Li, Q. Han, X.H. Yao (South China University of Technology)</p>	<p>148 - Experimental Evaluation of the Mechanical Behavior of Pure Iron at Ultra-High Deformation Rates Chong Gao (Northwestern Polytechnical University), T Iwamoto (Hiroshima University), T Kusaka (Ritsumeikan University)</p>
15:00–15:20	<p>050 - Blast Response of Hybrid Steel-UHMWPE Composite Panels Haleimah ALAbdouli (University of Sheffield, Technology Innovation Institute), Richard Curry, Genevieve Langdon (University of Sheffield)</p>	<p>124 - Influence of Cross-Sectional Aspect Ratio on the Dynamic Hardening of Li-ion Battery Cells Tuo Fang (Tsinghua University, National University of Singapore), Z.A. Zhuang, B.B. Xing, Y. Xia, Q. Zhou (Tsinghua University)</p>	<p>177 - A Rapid Prediction Method for the Deflection Trajectory of an Elliptical Variable-Cross-Section Penetrator During Perforation of Multi-Layer Spaced Plates Huiyuan Guan, H.P. Liu, C.Y. An, L.L. Jiang, Q.R. Wang (Beijing Institute of Technology)</p>	<p>234 - Numerical Simulation and Experimental Study on the Momentum Transfer Characteristics and Impact Effects of Kinetic Impact on Quartz Sand Jinbao Ma, Tianhong Wang, Zizheng Gong, Xinlu Yu, Yingqian Fu (Ningbo University)</p>
15:20–15:50	TEA BREAK - Venue: EA Lobby			
	<p>Session C1 - Experimental techniques for impact and dynamic testing Venue: EA-06-02 Chair: Hyunho Shin</p>	<p>Session C2 - Response of 3D-printed components to impact Venue: EA-06-03 Chair: PJ Tan</p>	<p>Session C3 - Failure and fracture under impact and impulsive loads Venue: EA-06-04 Chair: Naresh Thadhani</p>	
15:50–16:10	<p>257 - Dynamic In-Plane Torsion for Large-Strain Thermo-Mechanical Characterization of Sheet Metal and Taylor–Quinney Coefficient Identification Dirk Mohr, Xueyang Li, Christian C. Roth, Vincent Grolleau (ETH Zurich)</p>	<p>063 - Quasi-static and dynamic compression of 4D-printed reusable metamaterials with different Poisson’s ratios S. Huo (Swinburne University of Technology), A. Zolfagharian (Deakin University), F. Xia, S. Xu Swinburne University of Technology), Z. Gao (Tianjin Chengjian University), Dong Ruan (Swinburne University of Technology)</p>	<p>175 - A Combined Blast–Fragment Loading Test with Independent Control of Overpressure, Impact Velocity, and Arrival Time. Results from tests on dry Aramid Fabrics G. Kechagiadakis, D. Lecompte (Royal Military Academy Belgium), V.W. Paepegem (Ghent University)</p>	
16:10–16:30	<p>112 - Impact Testing System for a Mechanically High-Fidelity Anthropomorphic Craniocerebral Model J.Y. Wang, Y.T. Zhang, R. Li, K. He, Z.X. Chen, Z.Y. Lei, L.C. Zhou, Z.J. Liu, Y.P. Liu, B. Yang</p>	<p>122 - Blast-Like Loading Simulation Performance of Additively Manufactured Open-Cell Metallic Foams Chenglin Gou, Yuanrui Zhang, Yudong Zhu, Yongliang Zhang, Zhijun Zheng (University of</p>	<p>080 - Ballistic Impact Responses of CoCrNi MEA Nanofilm Guiji Wang, Jinlei Dong (Institute of Fluid Physics, China Academy of Engineering Physics)</p>	

	(South China University of Technology), G. A. Holzapfe (Graz University of Technology), Z.Y. Jiang, T.L. Sun, Liqun Tang (South China University of Technology)	Science and Technology of China)	
16:30–16:50	243 - <i>A thermodynamically consistent initialization approach for driver gas in a large-diameter shock tube: Experimental and numerical study on shock wave dynamics</i> Haoyang Li , Li Chen (Southeast University)	221 - <i>Experimental and numerical comparative study on the crashworthiness of pristine and recycled 3D-printed fiber-reinforced lattice structures</i> Francesco Bandinelli , M Scapin, L Peroni (Politecnico di Torino)	128 - <i>A Development of a DIC-Based Software for Direct Evaluation of the J-Integral in Dynamic Fracture Experiments of SUS304</i> Ruihe Liu (Hiroshima University), Bo Cao (Northwestern Polytechnical University), Takeshi Iwamoto (Hiroshima University)
16:50–17:10	108 - <i>Dynamic response of clamped circular plates subjected to graded cellular projectiles: A coupling analysis theory and validation</i> Yuanrui Zhang (Hefei University of Technology), Y.D. Zhu (USTC), T.X. Yu (The Hong Kong University of Science and Technology), J.L. Yu, Z.J. Zheng (USTC)	233 - <i>Microstructural and mechanical properties of CF/PEEK gyroid structures</i> Dejian Zou , Yingqian Fu (Ningbo University)	017 - <i>Failure Behavior Analysis of a Silicon-based MEMS Inertial Switch with Curved Zig-Zag Tracks</i> Mo Yang , Weirong Nie, Baolin Cheng, Yun Cao (Nanjing University of Science and Technology)
17:10–17:30	062 - <i>Thermal Analysis of Portevin-Le Chatelier Effect in AlMg Alloys</i> Chris Giesige , Antoine Dumont, Stephane Boubanga, Silke Klitschke, Frank Huberth, Ben Saute (Telops-Exosens)	126 - <i>Experimental investigation on the response of sandwich panels with 3D printed biopolymer gyroid structure cores and asymmetric glass fibre face sheets under blast loading</i> Sherlyn Gabriel , J.A. Dicks, M. Christodoulides, L. Luthuli (University of Cape Town)	114 - <i>Probabilistic Fragility Assessment of the Liner Plate in the Reactor Cavity under Steam Explosion-Induced Impulsive Loads</i> Seong-Kug Ha , S.L. Cha, J.C. Park (Korea Institute of Nuclear Safety), Y.H. Yoon, K.T. Lee (Korea Simulation Technologies)
17:30–17:50	172 - <i>Study on Load-Bearing/Energy Storage Integration Performance of Core-Sheath Structured Lithium-Ion Fiber Battery Composites for Dynamic Load Environments</i> Xin Xia , Yingying Chang (Xin Jiang University)	016 - <i>Compressive-Driven Mechanical Enhancement of Low-Infill FDM Parts Through Liquid Resin Infiltration</i> Chil-Chyuan Kuo , Zhe-Zhi Lin (Ming Chi University of Technology)	123 - <i>Full-Scale Low-Velocity Impact Experiments on Reinforced Concrete Slabs in a High-Temperature State Due to Fire</i> Takuto Nakanishi , Yasunori Mizushima (Kobe University), Junichi Suzuki (National Institute for Land and Infrastructure Management), Wararu Yamasaki (Dot Corporation), Tomohiro Naruse (National Institute for Land and Infrastructure Management), Yoko Hirano (Hokkaido University)
17:50–18:15	Bus to NUS UTown		
18:15–20:30	Welcome Dinner at NUS UTown		

WELCOME DINNER – 18:15
NUS UTown Education Resource Centre 2nd Level



WEDNESDAY 01 JULY 2026

Plenum – Invited Lecture 3				
Venue: Engineering Auditorium – Chair: Leong Hien Poh				
09:00–09:40	Andy Tyas (University of Sheffield) <i>Prediction of Loading from High Explosive Detonation: Past Successes and Future Challenges</i>			
09:40–09:50	Session Transition (Move to 6th Floor)			
Parallel sessions 09:50–12:20				
	Session D1 - Blast loading and response Venue: EA-06-02 Chair: Christoph Roller	Session D2 - Dynamic material behaviour and constitutive modelling Venue: EA-06-03 Chair: Petr Hála	Session D3 - Experimental techniques for impact and dynamic testing Venue: EA-06-04 Chair: Takeshi Iwamoto	Session D4 - Impact absorption and crashworthiness Venue: EA-06-05 Chair: Tracy Dong Ruan
09:50–10:10	083 - ECC overlay Concrete system under Contact Detonation Aniket Kumar, Satadru Das Adhikary (Indian Institute of technology (Indian School of Mines), Dhanbad), Aditya Rana (CSIR-Central-Institute of Mining and Fuel Research)	199 - Dynamic Mechanical Characterization and Constitutive Modeling of 3D-Printed Polyurethane: An Infill-Dependent Study Xinyue Huang, Z.W. Guo, G.Y. Huang (Beijing Institute of Technology)	242 - Additively Manufactured SS316L-W Impedance-Gradient Flyers for Controlled Ramp-Wave Loading Xiaofeng Wang, Jinlin Xu, Yonggang Wang, Zhaoxiu Jiang (Ningbo University)	141 - Testing, modelling and optimisation of aluminium extrusions for side-crash protection of battery trays in electric vehicles Eduard Teixido, E. Teixidó-Marquès, D. Morin, O. S. Hopperstad, T. Børvik, M. Costas (SIMLab - NTNU)

10:10–10:30	<p>210 - <i>Experimental and Numerical Study of Steel-concrete-steel Composite Walls with CFST Boundary Elements under Near-fault Explosions</i> Yuxuan Wang, Lu Gan, Zhouhong Zong (Southeast University)</p>	<p>153 - <i>A Macroscopic Constitutive Model for Polycarbonate Subjected to Impact Loading</i> Haicheng Xu, Heming Wen (USTC)</p>	<p>048 - <i>Impact Deformation Behavior of AA6063 Sheets Subjected to A Six-Stage Reluctance Electromagnetic Launch System</i> Miaomiao Wan, Fuguo Li, Nianxuan Hu (Northwestern Polytechnical University)</p>	<p>237 - <i>Dynamic Mechanical Behavior and Wave Propagation Analysis of Lattice Structures under High-Velocity Impact</i> Xinpei Zhang, Yuanyuan Ding (Ningbo University)</p>
10:30–11:00	TEA BREAK - Venue: EA Lobby			
	<p>Session E1 - Blast loading and response Venue: EA-06-02 Chair: Steeve Chung Kim Yuen</p>	<p>Session E2 - Failure and fracture under impact and impulsive loads Venue: EA-06-03 Chair: Ye Yuan</p>	<p>Session E3 - Experimental techniques for impact and dynamic testing Venue: EA-06-04 Chair: Christian C. Roth</p>	<p>Session E4 - Artificial Intelligence and Machine Learning in impact/dynamic stress analysis Venue: EA-06-05 Chair: Shannon Ryan</p>
11:00–11:20	<p>208 - <i>Blast Analysis of Underground Structures and Metro Stations Subjected to Internal Explosions</i> Tin V. Do, Asher Gehl (Karagozian & Case)</p>	<p>115 - <i>Insights from Machine Learning based Predictions of Spall Strengths of Metals and Alloys</i> Naresh Thadhani, Keara Frawley, Hari Sahu, Nakul Shah, Jackson Smith, Greg Kennedy, Rampi Ramprasad (Georgia Institute of Technology)</p>	<p>020 - <i>Vehicle Excitation Identification Based on the Dynamic Response of Bridges</i> Tommy H.T. CHAN, K. Jeyamohan, Khac-Duy Nguyen, David P. Thambiratnam (QUT)</p>	<p>191 - <i>A Dual-Network Framework to Optimize Lattice Protective Structures Under Impact Loading Conditions</i> Salvatore Annunziata (Politecnico di Milano), L.A. Tellier (NTNU), L. Lomazzi (Politecnico di Milano), V. Aune (NTNU), A. Manes (Politecnico di Milano)</p>
11:20–11:40	<p>014 - <i>From vent sizing to structural response: a logarithmic congestion model for dust explosion loads on industrial filter structures</i> Francesco Pinna, Marco Zucca (University of Cagliari), Marco Simoncelli (Politecnico di Milano), Flavio Stochino (University of Cagliari)</p>	<p>092 - <i>Calibration of Strain Rate- and Temperature-Dependent Constitutive and Fracture Models Using Results from a Single SHPB Test with a Compression-to-Tension Converting (CTC) Specimen Structure</i> Hyunho Shin, Gyunggeun Shin, Jinwoong Jeon (Kangwon National University), Jaehyuck Lee (Dyn Tech), Sanghoon Kim (Chonnam National University), Wooseok Sung, Jae Sakong, and Jaeyi Oh (Hanwha Aerospace Co. Ltd.)</p>	<p>046 - <i>Hybrid Metallic Ceramic Interfacial Engineering for Enhanced Thermo-Mechanical Performance of CFRP Laminates under High Strain-Rate Loading</i> Md Newaz Sharif, Pengfei Wang, Kassaw D. Jibrel, Songlin Xu (University of Science and Technology of China)</p>	<p>093 - <i>Machine learning based predictions on the mechanical performance and inverse design of lattice metamaterials</i> Lijun Xiao (Beijing Institute of Technology), X.C. Zhang (North China Electric Power University), W.D. Song (Beijing Institute of Technology)</p>

11:40–12:00	<p>214 - <i>Experimental study on impulse saturation of metal plates under shock wave loads and the application of pulse equivalent method</i></p> <p>Lanren Tian (Central South University), L. Zhu (Wuhan University of Technology), V.P.W. Shim (NUS)</p>	<p>159 - <i>From Impact to Blast: An Integrated View on Laminated Glass Response, Fracture and Residual Capacity</i></p> <p>Petr Hála, A. Zemanová, P. Konrád, P. Kheml (Czech Technical University in Prague)</p>	<p>151 - <i>Research Progress on the Development of Ultra-large Size Split Hopkinson Torsion Tube</i></p> <p>Xiquan Jiang (Hefei Jiangshui Dynamic Mechanics Experiment Equipment Co., Ltd., China), Qin Fang, Li Chen (Southeast University), Peng Yu (Guangxi University)</p>	<p>069 - <i>Application of machine learning models to predict residual velocity of rigid projectiles on monolithic metallic targets</i></p> <p>Prince Jeya Lal Lazar (Rajalakshmi Institute of Technology), Kota Muralidhar (SSN College of Engineering), Ramesh Sengottuvelu (Presidency University)</p>
12:00–12:20	<p>060 - <i>Dynamic Response Characteristics and Parametric Study of Reinforced Concrete Blast-Resistant Structures under Internal Explosion Loads</i></p> <p>Yongyang Xing, H.B. Wang, M. X. Wang, N. Lv (Anhui University of Science and Technology)</p>	<p>246 - <i>Research on Dynamic Mechanical Behavior and Connection Constitutive Model of Riveted Joints under Complex Impact</i></p> <p>Tengfei Ren, Cunxian Wang, Tao Suo (Northwestern Polytechnical University)</p>	<p>245 - <i>Damage Mechanism and Mechanical Response of Composite Subjected to High-Velocity Sand Erosion</i></p> <p>Jia Huang, Shaorui Wang, Qianzhu Mao, Chao Zhang, Zhongbin Tang, Yulong Li (Northwestern Polytechnical University)</p>	
12:20–13:30	LUNCH - Venue: EA Lobby			
<p>Plenum – Invited Lecture 4 Venue: Engineering Auditorium – Chair: Dirk Mohr</p>				
13:30–14:10	<p>Cliff Butcher (University of Waterloo) Vehicle Lightweighting with a Novel 7xxx Series Aluminum Alloy: From Thermomechanical Processing to Crash Performance</p>			
14:10–14:20	Session Transition (Move to 6th Floor)			
<p>Parallel sessions 14:20–17:50</p>				
	<p>Session F1 - Impact absorption and crashworthiness Venue: EA-06-02 Chair: Wesley Cantwell</p>	<p>Session F2 - Impact on brittle materials – concrete, rock, ceramics, etc. Venue: EA-06-03 Chair: Longhui Zhang</p>	<p>Session F3 - Projectile penetration and perforation Venue: EA-06-04 Chair: Xin Zhang</p>	<p>Session F4 - Computational modelling of impact and high-rate loading Venue: EA-06-05 Chair: Zoran Ren</p>
14:20–14:40	<p>019 - <i>Crashworthiness Enhancement of Inverted Honeycomb Auxetic Panels: Experimental and Computational Study</i></p> <p>Nejc Novak (University of Maribor),</p>	<p>022 - <i>Dynamic Properties of UHPFRC Under Extreme Loading</i></p> <p>Ezio Cadoni, D. Forni (University of Applied Sciences and Arts of Southern Switzerland)</p>	<p>171 - <i>The damage transition mechanism induced by interface effects during the penetration of concrete/rock double-layer targets</i></p> <p>Shushu Zhao, Jianguo Ning, Xiangzhao Xu (Beijing Institute of</p>	<p>027 - <i>Mesh-free simulation of microparticle rebound, bonding, jetting, and adiabatic shear instability during high-velocity impacts: An experimentally validated study</i></p> <p>John Magliaro, Mankarn Sandhu</p>

	Hasan Al-Rifaie (Poznan University of Technology), Alessandro Airoidi (Politecnico di Milano), Matej Vesenjaj, Zoran Ren (University of Maribor)		Technology)	(University of Waterloo), Ahmed Tiamiyu (University of Calgary)
14:40–15:00	225 - Topologically Integrated Helical Sponge Bio-Hybrid Lattice with Enhanced Dynamic Strength and Energy Absorption Dongdong Guo , ZX Jiang, YG Wang (Ningbo University)	229 - Impact Mechanical Behavior and Energy Dissipation Analysis of Rock-Concrete Composites with Different Interface Roughness Yushan Liu , Weijing Yao, Qinghe Zhang, Haiming Chen (Anhui University of Science and Technology)	256 - Data-driven Lightweighting and Terminal Lethality Enhancement of PELE Projectiles: A Comparative Machine Learning and Multi-objective Optimization Framework Zhanxuan Wang (NJUST), H.L. Zheng (Shenyang Ligong University), M.Y. Wang, X.T. Li, C.W. Luo (NJUST), Z.H. Du (NJUST, Shenyang Ligong University), L.Z. Xu (NJUST)	127 - A Three-Dimensional Explicit Direct FE² Framework for Dynamic Analysis of Lattice Structures Pei Li (University of Southern Denmark), Heng Zhang, Zhe Liu (Xi'an Jiaotong University, NUS), Vincent B. C. Tan (NUS)
15:00–15:20	116 - Performance Study of Sound-Absorbing and Blast-Resistant Integrated Metamaterials Wenjie Lu , L. Chen (Nanjing University of Science and Technology), C.Q. Chen (Nanjing University of Science and Technology, Nanjing University), X. Li (Nanjing University of Science and Technology), M.H. Lu, Y.F. Chen (Nanjing University)	065 - Low-Velocity Impact Response of Rubberized One-part Geopolymer Concrete with Varying Rubber Contents under Extreme Temperatures Shunyin Wan , Chaobin Yang, Yuanzheng Lin (Southeast University)	166 - Correlation between dynamic mechanical properties and ballistic resistance of spray-formed 7055 Aluminum Alloy against 7.62 mm ball projectiles Zekun Wang , Yangwei Wang, Lingxiang Shi, Rui An, Jiawei Bao (Beijing institute of technology)	119 - In-structure shock assessment for precast components Jia Yuan Lim , K.W. Kang (Defence Science and Technology Agency, Singapore)
15:20–15:50	TEA BREAK - Venue: EA Lobby			
	Session G1 - Impact absorption and crashworthiness Venue: EA-06-02 Chair: Nejc Novak	Session G2 - Dynamic material behaviour and constitutive modelling Venue: EA-06-03 Chair: Ezio Cadoni	Session G3 - Response of 3D-printed components to impact Venue: EA-06-04 Chair: John Magliaro	
15:50–16:10	215 - Impact response of Cassini Oval Aperture Auxetic Metamaterials Arash Soleiman Fallah (Oslo Metropolitan	012 - Numerical Modeling of Dynamic UHMWPE Behavior Robin Paul , A. Lion, M. Johlitz (University of the	235 - Understanding 3D Printed Concrete (3DPC) against Projectile Impacts Utami Yerikania (NUS), Zhang Jie (Taiyuan	

	University), N. Mehreganian (Imperial College London), X.P. Zhang, Z.P. Sun, Y.Y. Ding (Ningbo University), V.P.W. Shim (NUS)	Bundeswehr Munich)	University of Technology), Poh Leong Hien (NUS)
16:10–16:30	011 - A similarity technique for predicting the dynamic response of stiffened plates under impact loading Xinzhe Chang , Fei Xu (Northwestern Polytechnical University), Wesley J. Cantwell (Khalifa University of Science and Technology)	253 - Modeling and Validation of 95W Tungsten Heavy Alloy Considering Stress State, Strain Rate, and Temperature Effects Xinyu Sun , Yiding Wu, Rui Zhu, Wencheng Lu, Shuangqi Li, Bingzhuo Hu, Guangfa Gao (Nanjing University of Science and Technology)	207 - Behaviour of Multi-Layer 3D Printed Reinforced Concrete Components under High Dynamic Load Vahan Zohrabyan , Thomas Braml (University of the Bundeswehr Munich)
16:30–16:50	162 - Anisotropic response of additively-manufactured polymeric strut-based lattices to compression along different directions Zhengping Sun (Nanjing University of Science and Technology, Ningbo University), Y.Y. Ding (Ningbo University), V. P. W. Shim (NUS, Ningbo University)	018 - Post-yield and Damage Response of Polyurethane Foam – Effects of Loading Direction and Strain Rate Shaohua Wang , Hanyang Li, Yangbo Guo (NUS), V.P.W. Shim (NUS, Ningbo University)	138 - Impact Behaviors and Damage Mechanisms based on Mechano-electrical Monitoring for Additively Manufactured CFRP Laminates coated by Elastomer Guo Wang , Haoyang Yin, Yuanrun Zhang, Yinggang Miao (Northwestern Polytechnical University)
16:50–17:10	113 - Multiscale Investigation of impact resistance and energy absorption mechanisms of node-enhanced gradient Lattices fabricated from Al _{0.5} CoCrFeNi Shijia Li , Yixiang Gao, Shunhui Luo, Longhui Zhang, Xiaohu Yao (South China University of Technology)	174 - The Parallel Hardening Paradox in High Strain Rate Deformation of 316L Stainless Steel Micro-mechanisms and Thermo-mechanical Coupling Dianqiang Shu , Huanran Wang (Ningbo University)	239 - Integrated Design of Origami-Based Structural Metamaterials for Tailored Dynamic Mechanical Properties and Electromagnetic Stealth Yiming Lei , YG Wang (Ningbo University)
17:10–17:30	088 - Stability of multi-body system under axial pulse load: an idealised model for collision stability of rail vehicles Kai Liu , L. Jing (Southwest Jiaotong University), Q.M. Li (The University of Manchester)	077 - Constitutive Modeling, Failure Criterion and Equation of State for the High-Entropy Alloy Ti ₃ Zr _{1.5} Nb _{0.5} V _{0.9} Al _{0.5} Yunfei Yin , H. Chang, Z.Q. Li (Taiyuan University of Technology)	059 - Data-Driven Modeling and Optimization of a 4D-Printed Shape Memory Polymer-Based Crash Absorber Yingbo Zhu, Feng Zhu (Johns Hopkins University)
17:30–17:50	154 - Theoretical Study on Dynamic Response of Foam Core Sandwich Structure Under Repeated Impacts Wen Xiao , Yinggang Li (Wuhan University of Technology), Ser-Tong Quek (NUS)	054 - Enhancing flexible transparent electrodes fabrication via laser-induced optical-thermal-mechanical coupled nanowire welding Yaowu Hu (Wuhan University)	

FREE EVENING

Thursday 02 JULY 2026

Plenum – Invited Lecture 5				
Venue: Engineering Auditorium – Chair: Guoxing Lu				
09:00–09:40	Shannon Ryan (Deakin University) <i>Designing Protective Structures in the Age of AI: Physics-Informed Learning and Human–Machine Collaboration</i>			
09:40–09:50	Session Transition (Move to 6th Floor)			
Parallel sessions 09:50–12:20				
	Session H1 - Dynamic material behaviour and constitutive modelling Venue: EA-06-02 Chair: Amos Gilat	Session H2 - Impact biomechanics & Stress/shock waves Venue: EA-06-03 Chair: Liqun Tang	Session H3 - Failure and fracture under impact and impulsive loads Venue: EA-06-04 Chair: Yulong Li	Session H4 - Computational modelling of impact and high-rate loading Venue: EA-06-05 Chair: Jean-Philippe Ponthot
09:50–10:10	041 - Characterization and modeling of plasticity and fracture behavior in steel sheets under multiaxial dynamic loading Chongyang Zeng, FX Fang (University of Siegen), L Leotoing, D Guines (Université de Rennes)	178 - Vertebra-Specific Lumbar Fracture Tolerance Under Dynamic Vertical Loading Kwong Ming Tse (Swinburne University of Technology, The University of Melbourne), D. Robinson (The University of Melbourne, University of Queensland), M. Franklyn, P.V.C. Lee (The University of Melbourne)	164 - Mechanical properties of carbon fiber reinforced shear stiffening gel composite under impact Xin Zhang, Yajing Miao (Southern University of Science and Technology)	038 - Validating VIPERFSI: Modelling blast against steel and concrete structures James Wurster, Peter McDonald, Andrew Nicholson (Viper Applied Science)
10:10–10:30	130 - Numerical study of nanoparticle effect on compressive flow stress of magnesium alloys with strain rate Yang Chen (Guilin University of Electronic Technology), Y.B. Guo (NUS), S. Tekumalla (University of Victoria), M. Gupta (NUS), V.P.W. Shim (NUS, Ningbo University)	165 - Enhancement Effect of Underwater Explosion Shock Waves Influenced by Seabed Topography Yujie Xie, Zhiming Liu, Hailong Li, Zhifan Zhang (Dalian University of Technology)	184 - Failure and Fragmentation of a Brittle Beam under Pure Bending Fenghua Zhou, Zhiqiang Wang, Hongsheng Yang (Ningbo University)	075 - Machine learning-driven prediction of the conditions for shock-induced phase transformations in tin Marti Puig Fantauzzi (University of Oxford), Simon Wilkinson (AWE), Patrick Heighway, Antoine Jerusalem, Daniel Eakins (University of Oxford)
10:30–11:00	TEA BREAK - Venue: EA Lobby			

	Session I1 - Dynamic material behaviour and constitutive modelling Venue: EA-06-02 Chair: Pei Li	Session I2 - Blast loading and response Venue: EA-06-03 Chair: Lijun Xiao	Session I3 - Impact on brittle materials – concrete, rock, ceramics, etc. Venue: EA-06-04 Chair: Kwong Ming Tse	Session I4 - Projectile penetration and perforation Venue: EA-06-05 Chair: Stefano Signetti
11:00–11:20	137 - Dynamic Responses of Tape Spring Structures Jianjun Zhang (Western Sydney University), Guoxing Lu (Zhejiang University)	144 - The influence of geometric fidelity in blast-obstacle interaction: Experimental and CFD studies of the Beirut grain siloes Jack Denny (University of Southampton), D.G. Farrimond (University of Sheffield), S. Gabriel, S. Chung Kim Yuen (University of Cape Town), S. Rigby (University of Sheffield), S. Al-Hajj (American University of Beirut), G.S. Langdon (University of Sheffield)	238 - A rapid method for measuring the rock brittleness index Rapid characterization of rock brittleness based on LIBS technology Qinghe Zhang , Haiming Chen, Weijing Yao, Yushan Liu (Anhui University of Science and Technology)	232 - Projectile–Target Coupled Fragmentation and Energy-Partition Mechanisms of Ceramic/Metal Composite Armor under High-Velocity Penetration Yilei Yu (Ningbo University, NJUST), M.H. Ma (NJUST), Z.X. Jiang, L.B. Wang (Ningbo University), G.F. Gao (NJUST)
11:20–11:40	024 - Multiphysics characterization of Polycarbonate under medium strain rates Dayou Ma , Chiara Colombo, Andrea Manes (Politecnico di Milano)	241 - A Scaling Prediction Method for Structural Dynamic Response under Blast Loading Based on Equivalent Static Loads Sijia Liu , Li Chen (Southeast University)	120 - Experimental Characterization of Energy Dissipation and Fragment Morphology in Rock Fragmentation Jiangshuai Meng , Xu Li (Sydney University), Sheng Jiang (Hohai University), Daniel Dias-da-Costa, Luming Shen (Sydney University)	152 - Quantitative parameters analysis of ignition damage caused by reactive fragments impacting aircraft fuel tanks Haokai Li , Yuan Li, Tao Suo (Northwestern Polytechnical University)
11:40–12:00	091 - Research on the dynamic mechanical behavior and mesoscale constitutive model of porous titanium based on in-situ multiscale characterization Boshi Wang , Y.X. Zheng, F.H. Zhou, J.Y. Huang (Ningbo University)	240 - Intelligent identification and quantification method of rockburst behavior characteristics based on vision and 3D laser point cloud Haiming Chen , Qinghe Zhang, Weijing Yao, Yushan Liu (Anhui University of Science and Technology)	230 - Dynamic behavior and damage mechanism of white sandstone under cyclic impact and acid-base erosion Weijing Yao , Yushan Liu, Qinghe Zhang, Haiming Chen (Anhui University of Science and Technology)	167 - Ballistic impact response of basket-weave near a titanium alloy Zhaoguo Zhang , Longhui Zhang (South China University of Technology)

12:00–12:20	248 - Dynamic behavior and a phenomenological elastoplastic model of metal fiber sintered sheet Yifei Meng, Ping Xia, Tao Suo, Bing Hou (Northwestern Polytechnical University)	055 - Study on cross-sectional shape effect on blast performance of CFDST columns under contact explosions Qian Zang , Li M H, Zong Z H (Southeast University)		099 - Cohesive zone modelling of boulder-mortar interface in multi-layered composite target under projectile impact Shashwat Kapoor , Sonalisa Ray (Indian Institute of Technology, Roorkee, India)
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12:20–13:30 LUNCH - Venue: EA Lobby

Conference Tour & Banquet 13:30–20:30

Conference Tour to Gardens by the Bay (GBTB)		Conference Banquet at Marina Bay Sands (MBS) Expo & Convention Centre	
13:30	Leave NUS for GBTB	18:00	Pre-dinner soft drinks
14:30	Visit GBTB	18:30	Presentation of Tokens to Plenary Speakers
17:30	Leave for MBS	18:45	Dinner commences
18:00	Arrive at MBS	20:30	Dinner ends

TOUR – 13:30



BANQUET – 18:00



Friday 03 JULY 2026

Plenum – Invited Lecture 6				
Venue: Engineering Auditorium – Chair: Vincent Tan				
09:00–09:40	Joseph Morton (ATA Engineering) <i>Identifying the Multiphase Damage Mechanisms Associated with Hypervelocity Impact</i>			
09:40–09:50	Session Transition (Move to 6th Floor)			
Parallel sessions 09:50–12:20				
	Session J1 - Blast loading and response Venue: EA-06-02 Chair: Masahiro Nishida	Session J2 - Dynamic material behaviour and constitutive modelling Venue: EA-06-03 Chair: Shaohua Wang	Session J3 - Failure and fracture under impact and impulsive loads Venue: EA-06-04 Chair: Shiqiang Li	Session J4 - Impact on brittle materials – concrete, rock, ceramics, etc. Venue: EA-06-05 Chair: Tao Suo
09:50–10:10	102 - Research on impact similarity law of elastic composite laminate based on ODLV scaling framework Fei Xu , Xinzhe Chang (Northwestern Polytechnical University), Xiaocheng Li (Aircraft Strength Research Institute of China)	161 - Influence of Strain Rate and Combined Tension - Torsion loading on the Mechanical Performance of Ti0.7Al4V Govind Gour (University of Oxford), Yuan Xu (Newcastle University), Antonio Pellegrino (University of Bath)	033 - Warhead fragmentation prediction methods Clément Chausse (CEA)	211 - Influence of water saturation on concrete under extreme ballistic loading Théo Calmels (Université Grenoble Alpes, CEA), Pascal Forquin (Université Grenoble Alpes), Magali Arlery (CEA)
10:10–10:30	101 - A Fast-Running Engineering Tool for Assessing Fluid-Structure Interaction in Blast-Loaded Plates Giovanni Marchesi , L. Lomazzi (Politecnico di Milano), V. Aune (NTNU), S. Gabriel, T. J. Cloete, G. Nurick, S. Chung Kim Yuen, A. Manes (University of Cape Town)	249 - Errors and influencing factors caused by area mismatch in SHPB devices: Decoupling analysis of generalized wave impedance Yiding Wu , Wencheng Lu, Minghui Ma (NJUST), Yilei Yu (Ningbo University), Xuan Zhou, Lin Chen, Guangfa Gao (NJUST)	125 - Effect of High-Frequency Pulsed Current Treatment on the Dynamic Mechanical Behavior of SiC/6061 Aluminum Matrix Composites Xiaozhe Sun , Z.Q. Li, R.F. Liu (Taiyuan University of Technology)	250 - Study on the Anti-Penetration Performance of SiC Ceramic-Fiber Composite Armor Wencheng Lu , Yiding Wu, Xinyu Sun, Bingzhuo Hu, Suangqi Li, Guangfa Gao (Nanjing University of Science and Technology)
10:30–11:00	TEA BREAK - Venue: EA Lobby			
	Session K1 - Blast loading and response Venue: EA-06-02 Chair: Chong Gao	Session K2 - Dynamic material behaviour and constitutive modelling Venue: EA-06-03 Chair: Zhengping Sun	Session K3 - Failure and fracture under impact and impulsive loads Venue: EA-06-04 Chair: Yang Chen	Session K4 - Computational modelling of impact and high-rate loading Venue: EA-06-05 Chair: Yazhou Guo

11:00–11:20	<p>081 - Capturing Fragments Inside Dense Explosion Clouds Using a Multi-Beam DIH Technique Arpit Joglekar, Devashish Chorey (Indian Institute of Technology Indore), Viwek Mahto, Kusumkant. D. Dhote (DRDO), Devendra Deshmukh (Indian Institute of Technology Indore)</p>	<p>106 - A new high-strain-rate characterization method and its application to automotive component crash analysis Xiangfan Fang, Chongyang Zeng (Institute of Automotive Lightweight Design, University Siegen)</p>	<p>037 - Experimental evaluation of the hydrodynamic ram effect on water tanks Ewan Leroy, Vincent Momboisse (CEA)</p>	<p>058 - Comparison of the Arbitrary Lagrangian-Eulerian and Smoothed Particle Hydrodynamics to Simulate Bird Impacts Jean Philippe Ponthot, N Quettier, E Smeyers, R Boman (University of Liège), B Toussaint, G Marichal (GDTech), R Barale, JS Ruess (Safran Aero Boosters)</p>
11:20–11:40	<p>180 - Dynamic Response and Energy Absorption of Polyurethane-Filled Folded Conical Dome Core Sandwich Structures Yingjing Liang, Yijie Liu, Jianzhang Huang, Shuxin Huang, Zeming Pan (Guangzhou University)</p>	<p>139 - Rate-dependent Mechanical Behaviors of PVA Composite Hydrogel enabled as Articular Cartilage Daxin Zhang, J.P. Yin, Z.Z. Fan, Y.G. Miao (Northwestern Polytechnical University), C.H. Luo (North Minzu University)</p>	<p>117 - The influence of W and V elements on the mechanical properties and fracture ignition behavior of TiZrNb-based high-entropy alloys Jiahao Huang, Y.X. Zheng, C. Cheng (Ningbo University)</p>	<p>109 - Impact equivalent static load based on a dynamic load factor formulation Jaesoon Jung, Sang-Mok Shin (Agency for Defense Development)</p>
11:40–12:00	<p>168 - Analysis of Damage Characteristics of Spherical Shell Structures Under Underwater Array Charge Explosion Yuxi Zhao, Z.M. Liu, P. Huang (Dalian University of Technology), X. Huang (Northwestern Polytechnical University), Z.F. Zhang (Dalian University of Technology)</p>	<p>224 - Effect of impact velocity on deformation mechanism of SAC305 lead-free solder Feiyang Chen, Zhaoxiu Jiang, Xiaofeng Wang, Yonggang Wang (Ningbo University)</p>	<p>140 - Experimental and numerical investigation of repeated impact damage and residual strength of foam-core composite sandwich panels Lihao Ding, Yinggang Li (Wuhan University of Technology)</p>	<p>219 - Finite Element Modelling of ceramic-based composite ballistic armour under high-velocity impact: design comparison and sensitivity analysis Lorenzo Paleari, Federico Danzi, Alessio Bassano, Lorenzo Moroni, Abhishek Kumar (Leonardo S.p.A.)</p>
12:00–12:10	Session Transition (Move to Engineering Auditorium)			
<p>Closing Remarks Venue: Engineering Auditorium – Chair: Victor Shim</p>				
12:10–12:30	Closing Remarks			
12:30–13:30	LUNCH - Venue: EA Lobby			