

Programme Overview

Time			Events															
9 Sept (Day 0)			10 Sept (Day 1)				11 Sept (Day 2)				12 Sept (Day 3)				13 Sept (Day 4)			
<div>"Lecture Theatre": Room 1</div> <div>"Lecture Room": Room 2</div> <div>Keynote: 30 min. presentation + 8 min. Q&A</div> <div>Plenary & Invited: 25 min. presentation + 3 min. Q&A</div> <div>Oral Presentaion: 15 min. presentation + 3 min. Q&A</div>			8:00	8:45	Registration		8:00	9:00	Registration		8:00	9:00	Registration		9:00	9:40	Registration + light breakfast (ARTC)	
			8:45	9:00	Welcome address (Room 1)		8:00	9:00	Registration		8:00	9:00	Registration		9:00	9:40	Registration + light breakfast (ARTC)	
			9:00	9:40	Keynote Session 1: Thomas Haubold (Rolls-Royce) Surface Enhancement Processes in Aeroengine Component Manufacturing (Room 1)		9:00	9:40	Keynote Session 2: Minghui Hong (NUS) Laser Processing and Signal Diagnostics for In-situ Process Monitoring (Room 1)		9:00	9:40	Keynote Session 3: Takashi Sato (IHI) Surface finishing techniques for EBM-manufactured Ti-6Al-4V components (Room 1)		9:40	10:25	Workshop 1: Brigitte Labelle (Shockform Aeronautique) Flapper peening with the FlapSpeed® PRO	
			9:50	10:10	Room 1 [ID: 081]		9:50	10:20	Invited talk 2: Domenico Furfari (Airbus) LP - laser shock peening (Room 1)		9:50	10:20	Invited talk 5: Sebastian Schuberth (Rosler) SF - AM post processing (Room 1)	Room 2 [ID: 019] (10:00-10:20)	10:25	11:10	Workshop 2: Klaas Rozema (Dycomet Europe B.V.) Cold Spray introduction, equipment & applications	
			10:10	10:30	Room 1 [ID: 068]	Room 2 [ID: 089]	10:20	10:40	Room 1 [ID: 074]	Room 2 [ID: 076]	10:20	10:40	Room 1 [ID: 066]	Room 2 [ID: 035]	11:10	11:55	Workshop 3: Young Sik Pyun (Sun Moon Univ.) The change of micro structure, and mechanical properties and performance by ultrasonic nanocrystal surface modification (UNSM) and its application to industrial products	
			10:30	10:50	Room 1 [ID: 024]	Room 2 [ID: 051]	10:40	11:00	Room 1 [ID: 040]	Room 2 [ID: 077]	10:40	11:00	Room 1 [ID: 072]	Room 2 [ID: 054]				
			10:50	11:10	Tea break	Tea break	11:00	11:20	Tea break	Tea break	11:00	11:20	Tea break	Tea break				
			11:10	11:30	Room 1 [ID: 041]	Room 2 [ID: 075]	11:20	11:40	Room 1 [ID: 031]	Room 2 [ID: 050]	11:20	11:40	Room 1 [ID: 032]	Room 2 [ID: 036]				
			11:30	11:50	Room 1 [ID: 010]	Room 2 [ID: 012]	11:40	12:00	Room 1 [ID: 039]	Room 2 [ID: 008]	11:40	12:00	Room 1 [ID: 009]	Room 2 [ID: 006]				
			11:50	12:10	Room 1 [ID: 096]	Room 2 [ID: 027]	12:00	13:10	Lunch break		12:20	13:30	Lunch break		11:55	13:15	Lunch break	
			12:10	13:10	Lunch break		13:10	13:40	Plenary session 1: Hitoshi Soyama (Tohoku Univ.) Fundamentals and applications of cavitation peening comparing with shot peening and laser peening (Room 1)		13:10	13:40	Plenary session 2: Yongxiang Hu (Shanghai Jiao Tong Univ.) Efficient modeling of laser peening for residual stress and shape control (Room 1)		13:15	14:30	Workshop 4: David Butler (Univ. Strathclyde) Surface Topography – A fingerprint for greater process control	
			13:50	14:20	Invited talk 1: Yuji Kobayashi (Sintokogio) FLE - shot peening (Room 1)		13:50	14:20	Room 1 [ID: 029] (14:00-14:20)	Invited talk 3: Janne Suoknuuti (Stresstech) PV&MC - strain analysis (Room 2)	13:30	14:00	Next Conference Announcement Prize Presentation (Room 1)					
			14:20	14:40	Room 1 [ID: 033]	Room 2 [ID: 047]	14:20	14:40	Room 1 [ID: 043]	Room 2 [ID: 023]	14:00	14:20	Safety Briefing					
			14:40	15:00	Room 1 [ID: 021]	Room 2 [ID: 022]	14:40	15:00	Room 1 [ID: 080]	Room 2 [ID: 034]	14:40		Bus departure (to ARTC)					
			15:00	15:20	Room 1 [ID: 067]	Room 2 [ID: 015]	15:00	15:20	Room 1 [ID: 091]	Room 2 [ID: 045]	15:20	17:00	Site Visit (ARTC)					
			15:20	15:40	Tea break	Tea break	15:20	15:40	Tea break	Tea break								
			15:40	16:00	Room 1 [ID: 018]	Room 2 [ID: 038]	15:40	16:10	Invited talk 4: Karsten Rottger (Ecoroll) FLE - deep cold rolling (Room 1)	Room 2 [ID: 058] (15:50-16:10)					17:30		Bus departure (to Buona Vista)	
			16:00	16:20	Room 1 [ID: 088]	Room 2 [ID: 062]	16:10	16:30	Room 1 [ID: 086]	Room 2 [ID: 078]								
16:20	16:40	Room 1 [ID: 044]	Room 2 [ID: 093]	16:30	16:50	Room 1 [ID: 005]	Room 2 [ID: 073]											
16:50	17:00	Quick Fire Poster Presentation (Room 1)																
18:00	21:00	Welcome /Cocktails Session @ Beerfest (Buona Vista)		17:00	18:00	Poster Session (Exhibition hall)		17:00	18:00	Industry Dialogue: Current capabilities and needs for surface finishing, enhancement, and characterisation (Room 1)								
								18:15		Bus departure (to MBS)								
								19:00	21:45	Conference Dinner @ MBS								

Poster Presentations

	ID	Author	Organisation	Title	Topic
Proc	087	Yukui Gao	Tongji University	Investigation on theoretical analysis of residual stress distribution induced by shot peening in 2397 Aluminum-Lithium alloy	Fatigue Life Enhancement
	016	Kumar Balan	Ervin Industries	Performance characteristics using SS grit in place of AlOx	Fatigue Life Enhancement
	017	Brian McGillivray	VibraFinish	Vibratory Peening and its impact on commonly used components	Fatigue Life Enhancement
	052	Jeffrey Hu	ARTC	Deep Cold Rolling and Residual Stress Distribution: A Case Study of Ti-alloy	Fatigue Life Enhancement
	055	Hongfei Liu	IMRE	Structural evolutions of single-crystal Ni-superalloys with and without EDM-deformed surface layers upon robotic hammer peening: A combination of XRD and EBSD investigations	Fatigue Life Enhancement
	064	Haiyang Lu	Shandong University	Tangential functional gradient coating design for complex profile workpieces with erosion enhancement	Fatigue Life Enhancement
Proc	013	Sabeur Msolli	IHPC	An Automated Deposition Procedure for Cold Spray Additive Manufacturing Process Modelling based on Finite Element Simulation	Fatigue Life Enhancement
	097	Young Sik Pyun	Sun Moon University	An Application of Portable UNSM (Ultrasonic Nanocrystal Surface Modification) System for Welded Joints and Maintenance	Fatigue Life Enhancement
Proc	079	Basil Kuriachen	National Institute of Technology Mizoram	Sliding Behavior of Secondary Phase SiC Embedded Alloyed Layer Doped Ti6Al4V Surfaces Ensuing Electro Discharge Machining	PV&MC
	083	Dennise Tanoko Ardi	ARTC	Microstructures and Fatigue Performance of Direct Metal Laser Sintered Inconel 718 Following Post Processing Heat Treatment and Shot Peening	PV&MC
Proc	025	Sho Itoh	ARTC	In situ measurement of granular pressure and velocity on component surfaces in stream finishing	Surface Finishing
	061	Adri Abu Bakar	ARTC	Effect of Abrasive Grit Size and Internal Diameter in AFM of EBM printed surface	Surface Finishing
	020	Feng Xiaotai	Air Force Engineering University	Study on Mechanism of Life Extension of Titanium Alloy Hole Subjected to Laser Shock Peening	Laser Processes
	026	Zhou Liucheng	Air Force Engineering University	Effect of Laser shock peening treatments on Foreign Object Damage Tolerance of titanium alloy blades	Laser Processes
Proc	063	Zhiheng Hu	SIMTECH	Tailoring surface roughness of micro selective laser melted SS316L by in-situ laser remelting	Laser Processes
	065	Kin Keong Wong	ARTC	Effect of contour parameters on surface quality for Laser Powder-bed Fusion	Laser Processes
	084	Xiangfan Nie	Air Force Engineering University	Numerical simulation and residual stress distribution of laser-peened titanium alloy aerofoil subjected to foreign object damage	Laser Processes

Oral Presentations

10 Sept (Day 1)				11 Sept (Day 2)				12 Sept (Day 3)					
8:00	8:45	Registration		8:00	9:00	Registration		8:00	9:00	Registration			
8:45	9:00	Welcome address (Room 1)		9:00	9:40	Keynote Session 2: Minghui Hong (NUS) Laser Processing and Signal Diagnostics for In-situ Process Monitoring (Room 1)		9:00	9:40	Keynote Session 3: Takashi Sato (IHI) Surface finishing techniques for EBM-manufactured Ti-6Al-4V components (Room 1)			
9:00	9:40	Keynote Session 1: Thomas Haubold (Rolls-Royce) Surface Enhancement Processes in Aeroengine Component Manufacturing (Room 1)		9:00	9:40	Keynote Session 2: Minghui Hong (NUS) Laser Processing and Signal Diagnostics for In-situ Process Monitoring (Room 1)		9:00	9:40	Keynote Session 3: Takashi Sato (IHI) Surface finishing techniques for EBM-manufactured Ti-6Al-4V components (Room 1)			
		Session 1A: Shot peening 1 & UNSM				Session 1C: Laser shock peening 1				Session 1E: Surface finishing			
9:50	10:10	Room 1 Paper 1	[ID: 081] Yusong Meng (NMC) FLE - shot peening An Investigation of Microwave Sensor Application on Conventional Shot Peening Media Dosage Unit	9:50	10:20	Invited talk 2 (Room 1)	Domenico Furfari (Airbus) LP - LSP An Overview of the Requirements for Implementing Laser Shock Peening into Aerospace Industry	9:50	10:20	Invited talk 5 (Room 1)	[ID: 094] Sebastian Schubert (Rosler) SF - AM post processing The challenges of finishing additive manufactured parts		
10:10	10:30	Room 1 Paper 2	[ID: 068] Yutaka Kameyama (Tokyo City Univ.) FLE - shot peening Microstructural changes in electroplated chromium coating-substrate interfaces induced by shot peening	10:20	10:40	Room 1 Paper 1	[ID: 074] Michael Fitzpatrick (Coventry Univ.) LP - LSP Laser peening for life extension in aerospace structural applications	10:20	10:40	Room 1 Paper 1	[ID: 066] Wolfgang Hansal (Hirtenberger) SF - AM post processing Adequate industrial post-processing for dynamically loaded 3D-printed metal parts		
10:30	10:50	Room 1 Paper 3	[ID: 024] Cedric Pillard (Sonats) FLE - ultrasonic shot peening Ultrasonic Shot Peening on Commercial Aviation	10:40	11:00	Room 1 Paper 2	[ID: 040] Hirotooshi Sasaki (Tohoku Univ.) LP - LSP Effect of Bubble Radius on Ability of Submerged Laser Peening	10:40	11:00	Room 1 Paper 2	[ID: 072] Arun Prasanth Nagalingam (NTU) SF - cavitation finishing Effects of Combined Wear Mechanisms in Internal Surface Finishing using Controlled Hydrodynamic Cavitation Abrasive Finishing Process		
10:50	11:10	Tea break		11:00	11:20	Tea break		11:00	11:20	Tea break			
11:10	11:30	Room 1 Paper 4	[ID: 041] Van Bo Nguyen (IHPC) FLE - shot peening Process Model for Evaluating the Peen Velocity in Shot Peening Machine	11:20	11:40	Room 1 Paper 3	[ID: 031] Norihito Shibuya (Sintokogio) LP - LSP Application of Laser Peening for Cold Work Steel	11:20	11:40	Room 1 Paper 3	[ID: 032] Hiroki Mizuno (Sintokogio) SF - barrel finishing Improvement of chipping phenomena for crustaceous materials rouding by centrifugal barrel finishing		
11:30	11:50	Room 1 Paper 5	[ID: 010] Mario Guagliano (Politenico Di Milano) FLE - shot peening Shot peening simulation aimed at surface finishing assessment	11:40	12:00	Room 1 Paper 4	[ID: 039] Ching Kiat Yong (Univ. Warwick) LP - LSP Influence of Laser Shock Peening (LSP) on the material properties of Additive Manufactured IN718	11:40	12:00	Room 1 Paper 4	[ID: 009] Cary Kenny Turangan (IHPC) SF - stream finishing Development of rheology and computational flow model for robotized external finishing of additive manufactured components		
11:50	12:10	Room 1 Paper 6	[ID: 096] Young Sik Pyun (Sun Moon Univ.) FLE - UNSM UNSM (Ultrasonic Nanocrystal Surface Modification) of Metal AM (Additive manufacturing) to Improve Fatigue Strength and Wear & Friction Property	12:00	13:10	Lunch break		12:00	12:20	Room 1 Paper 5	[ID: 095] David Soldan (Rosler) SF - surface finishing Directional single part process with Mass Finishing		
12:10	13:10	Lunch break		13:10	13:40	Plenary session 2: Yongxiang Hu (Shanghai Jiao Tong Univ.) Efficient modeling of laser peening for residual stress and shape control (Room 1)		12:20	13:30	Lunch break			
13:10	13:40	Plenary session 1: [ID: 028] Hitoshi Soyama (Tohoku Univ.) Fundamentals and applications of cavitation peening comparing with shot peening and laser peening (Room 1)		13:10	13:40	Plenary session 2: Yongxiang Hu (Shanghai Jiao Tong Univ.) Efficient modeling of laser peening for residual stress and shape control (Room 1)		13:30	14:00	Next Conference Announcement Prize Presentation (Room 1)			
		Session 1B: Shot peening 2				Session 1D: Laser shock peening 2 & Deep rolling				Session 2D: Material characterisation			
13:50	14:20	Invited talk 1 (Room 1)	Yuji Kobayashi (Sintokogio) FLE - shot peening Transition of shot peening technology in Japanese automobile industry	13:50	14:20	Room 1 Paper 5 (14:00-14:20)	[ID: 029] Weifeng He (Univ. Manchester) LP - LSP Shock Wave Propagation and Residual Stress Distribution in 316 Stainless Steel Treated by Nanosecond Pulsed Laser with Different Spatial Energy Distributions	13:30	14:00	Next Conference Announcement Prize Presentation (Room 1)			
14:20	14:40	Room 1 Paper 7	[ID: 033] Koichiro Nambu (Toyota Technol Inst.) FLE - wetblast Influence of wetblast treatment on fatigue strength of magnesium alloy AZ31	14:20	14:40	Room 1 Paper 6	[ID: 043] Sudhagara Rajan (Vellore Inst. of Tech.) LP - LSP A comparison of surface and sub-surface features induced by Shot Peening Vs Laser Peening on a Duplex aged Beta Ti alloy	14:00	14:20	Safety Briefing (Room 1)			
14:40	15:00	Room 1 Paper 8	[ID: 021] Michael Seitz (IAM) FLE - composite peening Mechanical Investigations on Composite Peened Aluminium	14:40	15:00	Room 1 Paper 7	[ID: 080] Han Cheng (Shanghai Jiao Tong Univ.) LP - LSP Crack retardation of damage through enhanced crack closure effect induced by laser peening	14:40		Bus departure (to ARTC)			
15:00	15:20	Room 1 Paper 9	[ID: 067] Benjamin Levy (Arts et Metiers) FLE - single shot process Experimental study of single shot process: toward a surface state predictive tool	15:00	15:20	Room 1 Paper 8	[ID: 091] Jeff Dulaney (LSP Technologies) LP - LSP Preparing Laser Peening Technologies for Industry 4.0/Industrie 4.0	15:20		Site Visit (ARTC)			
15:20	15:40	Tea break		15:20	15:40	Tea break		15:20	17:00				
15:40	16:00	Room 1 Paper 10	[ID: 018] Corentin Dides (IRT-M2P) FLE - shot peening Optimization of shot peening for titanium alloys Ti 10-2-3 in CONDOR project	15:40	16:10	Invited talk 4 (Room 1)	Karsten Rotgger (Ecoroll) FLE - DCR Tailored Mechanical Surface Enhancement	15:40	16:10			Room 2 Paper 8 (15:50-16:10)	
16:00	16:20	Room 1 Paper 11	[ID: 088] Junta Arakawa (Hiroshima Univ.) FLE - shot peening Effect of shakedown on the fatigue limit of ultrasonic shot peened steel	16:10	16:30	Room 1 Paper 9	[ID: 086] Chenyao Cao (Titech) FLE - burnishing Influence of Burnishing Process on Microstructure and Corrosion Properties of Mg Alloy AZ31	16:10	16:30			Room 2 Paper 9	
16:20	16:40	Room 1 Paper 12	[ID: 044] Zhe Chen (Linköping Univ.) FLE - shot peening Surface Enhancement of Two Nickel-based Superalloys by Shot Peening for Gas Turbine Disc Applications	16:30	16:50	Room 1 Paper 10	[ID: 005] Mehmet Okan Gortan (Hacettepe Univ.) FLE - Deep rolling Measurement of Residual Stresses on Deep Rolled Round Aluminum Samples Using Hole Drilling Strain Gage Method	16:30	16:50	Room 2 Paper 10	17:30	Bus departure (to Buona Vista)	
16:50	17:00	Quick fire poster presentation (Room 1)		17:00	18:00	Industry Dialogue: Current capabilities and needs for surface finishing, enhancement, and characterisation (Room 1)				* Proc Proceedings (available online, Lecture Notes in Mechanical Engineering)			
17:00	18:00	Poster Session (Exhibition hall)		18:15		Bus departure (to MBS)				* Fatigue Life Enhancement (FLE) Product Verification and Material Characterisation (PV&MC) Surface Finishing (SF) Laser Process (LP) → Each category includes Industrie 4.0 (I4.0)			
19:00	21:45			19:00	21:45	Conference Dinner (MBS)							

13 Sept (Day 4)		
9:00	9:40	Registration + light breakfast (ARTC)
9:40	10:25	Workshop 1: Brigitte Labelle (Shockform Aeronautique) Flapper peening with the FlapSpeed® PRO
10:25	11:10	Workshop 2: Klaas Rozema (Dycomet Europe B.V.) Cold Spray introduction, equipment & applications
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