SSET-2024 Programme Timetable

Showing Presenting Authors | Subject to change

Updated (BST): 13/09/2024 17:04:35

Legend:

Theme 1	**Plasma Electrolytic Oxidation & Corrosion**
Theme 2	**Thermal Barrier Coatings/ Environmental Barrier Coatings/ Thermal Spray**
Theme 3	**Tribology**
Theme 4	**Physical Vapour Deposition**
Theme 5	**Special Session**
Theme 6	**Miscellaneous**
Yellow Text	**Presenter with Outstanding Registration**
Cyan text	**Remote Presenter**

Start	End	Workshop Day: Monday 16 September
		Henry Royce Institute Hub Building
08:30	09:00	Workshop Registration
09:00	10:30	**Workshop in Thermal Spray: Application for Engineering Solutions** Prof Christopher Berndt, Swinburne University of Technology Period 1
10:30	11:00	Break
11:00	12:30	**Workshop in Thermal Spray: Application for Engineering Solutions** Prof Christopher Berndt, Swinburne University of Technology Period 2
12:30	13:30	Lunch
13:30	15:00	**Workshop in Thermal Spray: Application for Engineering Solutions** Prof Christopher Berndt, Swinburne University of Technology Period 3
15:00	15:30	Break
15:30	17:00	**Workshop in Thermal Spray: Application for Engineering Solutions** Prof Christopher Berndt, Swinburne University of Technology Period 4
17:00		Close of Workshop
18:00	18:45	**Pre Conference 5K Social Run** Sign up on the app

Start	End	Day 1: Tuesday 17 September
08:30	09:30	**Conference Registration** **Core Technology Facility**
09:30	10:00	**Opening Session** **Tony Horner, Henry Royce Institute** **Session Chair: Ping Xiao**

10:00	11:00	**Plenary 1: Materials Challenges for Future Sustainable Flights** Neil Glover FREng, Head of Materials Research, Rolls Royce **Session Chair: Ping Xiao**	
11:00	11:20	Coffee Break	
		Session 1	
		Stream A **The Dalton Room**	**Stream B** **The Innovation Suite**
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Aleksey Yerokhin**	**Theme 2: Thermal Spray** **Session Chair: Neil Glover**
11:20	12:00	**Invited Lecture: Gerard Henrion** **Research Director, French National Centre for Scientific Research, Paris (CNRS)** Plasma electrolytic oxidation: do we actually understand what is going on?	**Invited Lecture: Prof Sanjay Sampath** **Distinguished Professor & Director, Stony Brook University, Center for Thermal Spray Research** Multifunctional Coatings Enabled by Layered Manufacturing
12:00	12:20	**Muhammad Ahsan Iqbal, Universidad Complutense de Madrid** Low-Energy Consumption PEO Coatings with Photocatalytic Functional Properties (Paper 2)	**Christopher Berndt, Surface Engineering for Advanced Materials (SEAM), Swinburne University of Technology** Innovative Manufacturing of Battery Components by Thermal Spray Technology (Paper 6)
12:20	12:40	**Xue Wenbin, Beijing Normal University** Gas Release from Discharge Electrode During Plasma Electrolysis (Paper 12)	**Calum Hicks, National Manufacturing Institute Scotland, University of Strathclyde** Replacing electrolytic hard chrome plating with thermal spray, cold spray, and laser cladding alternatives for superior properties and cost saving (Paper 19)
12:40	13:00	**Haomin Li, Xi'an Jiaotong University** Growth behaviour of plasma electrolytic oxidation ceramic insulation film used for high temperature resistant wire (Paper 57)	**Ben Daymond & Andy Duthie, Frazer-Nash Consultancy Limited** Certifying a new thermal metal spray flight deck coating for the Queen Elizabeth Class aircraft carrier (Paper 22)
13:00	14:00	Lunch	
		Session 2	
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Gerard Henrion**	**Theme 2: Thermal Barrier Coatings** **Session Chair: Christopher Berndt**
14:00	14:20	**Aleksey Rogov, The University of Manchester** Instabilities in plasma electrolytic oxidation under bipolar polarisation (Paper 17)	**Invited Lecture: Prof Robert Vaßen** Department Head, Forschungszentrum Jülich GmbH
14:20	14:40	**Julien Martin, Université de Lorraine, CNRS, IJL** Development of ceramic-based composite coatings by combining cold-spray deposition and plasma electrolytic oxidation (Paper 16)	
14:40	15:00	**Mehri Hashemzadeh, INNOVENT e.V. Technologieentwicklung** Influence of oxalate and citrate Additives on soft-sparking occurrence in the PEO Process of Al6082 Alloy (Paper 14)	**Ben Beake, Micro Materials Ltd** Randomised Impact testing - a new technique to replicate the damage mechanisms in solid particle erosion of thermal barrier coatings (Paper 35)
15:00	15:20	**Alexandre Hugou, CIRIMAT-UT3** Towards improvement of transverse electrical conductivity of oxide coatings formed by plasma electrolytic oxidation on aluminium alloys by incorporation of silver particles (Paper 56)	**Ying Chen, The University of Manchester** A New Thermal Barrier Coating with Strong Resistance to Molten Silicate Attack and Fracture (Paper 88)
15:20	15:40	**Invited Lecture: Simka Wojciech**	**Tanvir Hussain, University of Nottingham** Suspension Plasma Spray (SPS) coatings for CMAS-Induced Degradation of Thermal Barrier Coatings (Paper 89)

15:40	16:00	Silesian University of Technology	**Krzysztof Leczycki, Air Force Institute of Technology** Properties of Multicomponent, Heat-Resistant Protective Coatings for Nickel Superalloys (Paper 87)
16:00	16:20	Coffee Break	
		Session 3	
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Simka Wojciech**	**Theme 2: Thermal Barrier Coatings** **Session Chair: Robert Vaßen**
16:20	16:40	**Nicolas Laugel, The University of Manchester** Tools for Automating Electrolytic Plasma Processes Optimisation (Paper 31)	**Nicholas Curry, Northwest Mettech** Environmental Barrier Coatings – Axial Plasma Deposition, From Powders to Suspensions (Paper 78)
16:40	17:00	**Atiyeh Adelinia, Faculty of Engineering Technology, University of Twente** Sub-surface Pore Formation and Inter-pore Connectivity in Plasma Electrolytic Oxidation Coatings on Aluminium Alloy (Paper 5)	**Esma Yilmaz, The University of Manchester** Impact of Steam Exposure on Thermally Grown Oxide Formation in Environmental Barrier Coatings (Paper 60)
17:00	17:20	**Yin Nan Kok, Powderloop Technology Ltd** Resource Efficient Hardmetal Powder for Additive Manufacturing (Paper 84)	**Ahmet Hilmi Paksoy, University of Manchester** Steam oxidation and interfacial bonding behaviour of ytterbium silicate environmental barrier coatings (Paper 58)
17:20	17:40	**Aleksey Yerokhin, University of Manchester** Surface Engineering of Hybrid Dielectric Substrates for Formable Electronic Devices (Paper 81)	**Dan Scotson, University of Manchester** Temperature dependence of SiO2 crystallinity for environmental barrier coatings (Paper 59)
17:40		Close of Day 1 Sessions	
18:30	19:00	**Pre-Dinner Drinks Reception** Fossils Gallery @ Manchester Museum Oxford Road, Manchester M13 9PL	
19:00	21:30	**Conference Dinner** Living Worlds @ Manchester Museum Oxford Road, Manchester M13 9PL	

Start	End	Day 2: Wednesday 18 September	
09:00	09:20	Registration	
09:20	10:20	**Plenary 2** Prof Jochen Schneider, Professor of Materials Chemistry, RWTH Aachen University **Session Chair: Ping Xiao**	
		Session 4	
		Stream A **The Dalton Room**	**Stream B** **The Innovation Suite**
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Jochen Schneider**	**Theme 4: Physical Vapour Deposition** **Session Chair: Ying Chen**
10:20	11:00	**Invited Lecture - Maryna Taryba** Instituto Superior Técnico	**Invited Lecture - Vincent Maurel** PSL University
11:00	11:20	**Yingwei Song, Institute of Metal Research** A highly corrosion-resistant self-sealing pore MAO film on Mg alloys (Paper 10)	**Dr Justyna Kulczyk-Malecka, Manchester Metropolitan University** Coatings for Improved Corrosion Resistance of Steels in Heavy Liquid Metal Coolants
11:20	11:40	Coffee Break	

		Session 5	
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Aleksey Yerokhin**	**Theme 4: Physical Vapour Deposition** **Session Chair: Vincent Maurel**
11:40	12:00	**Laurent Arurault, CIRIMAT-UT3** Thinning of the barrier layer thickness of porous anodic films prepared on commercial aluminium alloys for the subsequent galvanostatic metal electrodeposition (Paper 53)	**Jiin Woei Lee, University of Westminster** Characterisation of hydroxyapatite-coated titanium with titanium nitride interlayer for enhanced joint replacement longevity (Paper 18)
12:00	12:20	**Hui Tang, University of Electronic Science and Technology of China** Synthesis and properties of hydroxyapatite-containing coating on AZ31 magnesium alloy by micro-arc oxidation (Paper 45)	**Chao Wen, University of Bath** Antimicrobial self-sanitising nanocoatings for the built environment (Paper 30)
12:20	12:30	**Yuchen Lu, The University of Manchester** Towards rational selection of electrolytes for electrolytic plasma processing of magnesium (Paper 8)	Sponsor's Talk **Hitachi: Niko Bugelli**
12:30	12:40		Sponsor's Talk **Innoval: Junjie Wang**
12:40	12:50	**Bingying Xie, The University of Manchester** Manufacture of alumina ceramic coatings for electrical insulation by powder aerosol deposition (Paper 40)	Sponsor's Talk **Anton Paar: Nishil Malde**
12:50	13:00		Sponsor's Talk **Mettech: Nicholas Curry**
13:00	14:00	Lunch	
		Session 6	
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Justyna Kulczyk-Malecka**	**Theme 2: Thermal Barrier Coatings** **Session Chair: Gyn Brewster**
14:00	14:20	**Beatriz Mingo, The University of Manchester** Enhancing Corrosion Resistance of PEO Coatings with Ce-Containing Fibrous Silica (Paper 28)	**Invited Speaker - Prof Shrikant Joshi** Professor of the Production Technologies Center, University West
14:20	14:40	**Inime Udoh, The Hempel Foundation Coatings Science and Technology Centre (CoaST), Department of Chemical and Biochemical Engineering, Technical University of Denmark** An innovative experimental pathway for the synthesis of mesoporous silica particles as inhibitor containers for anticorrosive coatings (Paper 55)	
14:40	15:00	**Belen Garcia-Blanco, Cidetec Surface Engineering** Colloidal anaphoretic e-coating applied by immersion and Brush Plating for corrosion and chemical protection of AA6082 alloy (Paper 76)	**Luis Isern Arrom, Cranfield University** Effects of water vapour on the oxidation of 304 stainless steel coated with Thermal Barrier Coatings (Paper 72)
15:00	15:20	**Junjie Wang, Innoval Technology Limited** Bridging the gap between Aluminium Surface Science and Industrial Applications (Paper 62)	**Koldo Almandoz Forcen, Cranfield University** Automated Column Diameter Measurement in columnar TBCs: Introducing CoCo (Column Counter) (Paper 74)
15:20	15:40	**Kai Li, AVIC Manufacturing Technology Institute** Stable localized corrosion in a 7075-T6 aluminum alloy FSW joint: mechanism and mitigation (Paper 4)	**Yang Liu, The University of Manchester** Influence of Intergranular calcia-magnesia-alumino-silicate (CMAS) on Fracture of Yttria Stablised Zirconia (Paper 7)
15:40	16:00	**Lijia Yi, University of Southampton** Surface Characterization and Performance Optimization of Zn-Ni Coatings as Sustainable Alternatives to Cadmium Plating (Paper 51)	**Yi Zeng, State Key Laboratory of Powder Metallurgy** Preparation and Performance Study of SiC/SiC and its Modified Composites (Paper 24)
16:00	16:10	**Nan Gao, University of Birmingham**	Sponsor's Talk **Lucideon: Steve Newman**

16:10	16:20	Anti-biofouling surfaces based on superhydrophobic/superamphiphobic micro-structures (Paper 38)	Sponsor's Talk **Verder Scientific: Jack Armitage** Enabling Progress in Surface Science: An introduction to Verder Scientific
16:20	16:40	Coffee Break	
		Session 7	
		Theme 1: Plasma Electrolytic Oxidation & Corrosion **Session Chair: Justyna Kulczyk-Malecka**	**Theme 2: Thermal Barrier Coatings** **Session Chair: Gyn Brewster**
16:40	17:00	**Sepideh Aliasghari, The University of Manchester** Residual stress measurements in hybrid coating of aerosol deposition (AD) and plasma electrolytic oxidation (PEO) on aluminium using Raman spectroscopy (Paper 29)	**Chun Li, Harbin Institute of Technology** Surface nanocrystallization of YSZ via flash joining and sintering and its ultra-low temperature diffusion bonding with Ti6Al4V alloy (Paper 64)
17:00	17:20	**Shuqi Wang, Harbin Institute of Technology** Fabrication and heat dissipation property of high emissivity coatings on light metals by PEO (Paper 3)	**João Martins, University of Manchester** Unveiling the compositional effect on oxidation of high entropy alloy coatings in high temperature steam-rich atmospheres (Paper 54)
17:20	17:40	**Shuqi Wang, Harbin Institute of Technology** Developing TiO2-BN/CNTs coating for anti-friction and thermal radiation by plasma electrolytic oxidation synchronous deposition of nanoparticles (Paper 41)	**Xiaolong Zhang, Jilin University** Building direction dependence of corrosion behavior of Ni50.8Ti fabricated by Laser Powder Bed Fusion after adjusting the laser processing parameters (Paper 90)
17:40	17:50		Sponsor's Talk **Moorfield Nanotechnology: Andy Miller**
17:50	19:30	**Drinks Reception** Core Technology Facility	
19:30		Close of Day 2	

Start	End	Day 3: Thursday 19 September	
		Session 8	
		Stream A **The Dalton Room**	**Stream B** **The Innovation Suite**
		Theme 3: Tribology **Session Chair: Robert Wood**	**Theme 4: Physical Vapour Deposition** **Session Chair: David Hall**
09:00	09:40	**Invited Lecture: Prof Martin Dienwebel** Professor of Applied Nanotribology, Microtribology Centre µTC, Karlsruhe Institute of Technology	**Invited Lecture: Prof Thomas Klassen** Professor, Helmut Schmidt University, University of the Federal Armed Forces Hamburg
09:40	10:00	**Mark Gee, National Physical Laboratory** Real time evaluation of the failure of coatings and ceramics in sliding wear (Paper 21)	**Peter Kelly, Manchester Metropolitan University** Deposition of Functional Films onto Powder Substrates via Magnetron Sputtering (Paper 73)
10:00	10:20	**M. K. Lei, Dalian University of Technology** Combined Processing and Modification of Friction Pair by High-Intensity Pulsed Ion Beam (Paper 26)	**Grzegorz Greczynski, Department of Physics, Linkoping, Sweden** Discovery of Guinier-Preston zones in TiAlWN: revising the age-hardening mechanisms in ceramic thin films (Paper 20)
10:20	10:40	**Kaihui Dong, Institute of Metal Research, Chinese Academy of Sciences** Design and preparation of anti-wear MAO-PTFE composite coating on TC18 titanium alloy (Paper 25)	**Sravan Kumar Sambaraj, Cranfield University** Development of vanadium coatings on tungsten for nuclear fusion applications (Paper 80)
10:40	11:00	**H. L. Che, Dalian University of Technology** The Cellular Automaton Model for Structure Evolution of Nitrogen-expanded Austenite (Paper 27)	**Robert Dowding, Manchester Metropolitan University** Barrier layer coatings produced with tantalum on copper substrates by magnetron sputtering (Paper 77)
11:00	11:20	Coffee Break	
		Session 9	

		Theme 3: Tribology **Session Chair: Mark Gee**	**Theme 4: Physical Vapour Deposition** **Session Chair: Justyna Kulczyk-Malecka**
11:20	11:40	**J Radhakrishnan, The Manufacturing Technology Centre, Coventry** A durable superhydrophobic hierarchical surface structure fabricated by ultrafast laser processing (Paper 82)	**Mark Baker, University of Surrey** Femtosecond Laser Ablation (fs-LA) – A New Approach to XPS Depth Profiling of Thin Films and Coatings (Paper 34)
11:40	12:00	**Tess Knowles, University of Manchester & Henry Royce Institute** MXene based functionalisation of ceramic coatings produced by plasma electrolytic oxidation of light alloys (Paper 32)	**Hannah (Huixing) Zhang, National Physical Laboratory** Cross validation of thin film elastic property via nanoindentation and laser enhanced surface acoustic wave (Paper 75)
12:00	12:20	**Thais Netto, Manchester Metropolitan University** Wear resistance and adhesion of Cr and CrN coated Zr alloy cladding using magnetron sputtering for enhanced accident tolerance in light water reactors (Paper 37)	**Chi Xu, Beijing Normal University** TEM characterizations of a ZrO2/Cr composite coating on Zr-1Nb alloy after 1200 ◦C steam oxidation (Paper 11)
12:20	12:40	**Yepeng Yang, University of Birmingham** Active screen plasma nitriding of FeCrNiCoMo0.2 high entropy alloys (Paper 68)	**Carlos Ruzafa Silvestre, INESCOP** Comparative analysis of surface modifications on EVA induced by fixed and rotary nozzle plasma treatments (Paper 67)
12:40	13:20	Lunch	
		Session 10	
		Theme 3: Tribology **Session Chair: Martin Dienwebel**	**Theme 6: Miscellaneous** **Session Chair: Thomas Klaussen**
13:20	13:40	**Maxime Provost, Université Paul Sabatier** Chemical functionalization of sintered zirconia for mechanochemistry (Paper 50)	**Nujood Saeed Ali Mohammed Alshehhi Alshehhi, Technology Innovation Institute** Innovative Corrosion-Resistant Coatings: pH-Responsive Fluorescent Indicators for Self-Healing and Early Defect Detection (Paper 71)
13:40	14:00		**Abdullah Mustapha, Technology Innovation Institute** Beyond Boundaries: Harnessing Graphene for Self-Healing Coatings (Paper 70)
14:00	14:20	Closing Remarks	
14:20		Close of Day 3	