

STRUCTURAL INTEGRITY CONFERENCE PROGRAMME

ESIA18-ISSI2026

May 18–20, 2026—Technology and Innovation Centre (TIC), University of Strathclyde, Glasgow, UK



DAY 1: MAY 18

Opening	07:30	Registration, tea and coffee (LEVEL 2 FOYER)		
	08:30	>Welcome and Conference Opening (AUDITORIUM B and C)	Professor Ali Mehmanparast CONFERENCE CHAIR/FESI REPRESENTATIVE	Professor Jian-Feng Wen CSIC REPRESENTATIVE
Session 1	Plenary Talk I—Chair: Professor Ali Mehmanparast (University of Strathclyde)		AUDITORIUM B and C	
	08:45	1.1 Structural integrity of offshore renewable energy structures	Professor Feargal Brennan UNIVERSITY OF STRATHCLYDE	
	09:15	1.2 Towards mechanistic predictions of hydrogen-assisted fractures	Professor Emilio Martínez-Pañeda UNIVERSITY OF OXFORD	
	09:45	1.3 Mechanical performance and structural integrity of cold spray additively manufactured composites	Professor Sara Bagherifard POLITECNICO DI MILANO	
	10:15	Refreshments/poster session		
	10:45	1.4 Fracture mechanics for nuclear piping integrity assessment: historical review and challenges	Professor Yun-Jae Kim KOREA UNIVERSITY	
	11:15	1.5 Laser shock peening for aerospace structural applications	Professor Mike Fitzpatrick FESI DIRECTOR	
	11:45	1.6 Exploration on the integration of design and its intelligent manufacturing for composite structures based on 3D printing	Professor Yan Li TONGJI UNIVERSITY	
	12:15	Group photo		
	12:30	Lunch		

DAY 1: MAY 18 (CONTINUED)

Session 2.1	Fatigue, Creep and Fracture I—Chairs: Christos Skamniotis (Imperial College London) and Oliver Blakesley (Amentum)		CONFERENCE ROOM 1
	13:30	2.1.1 Keynote Structural integrity assessment of critical aeronautical components by numerical simulation of fatigue crack growth	Aleksandar Sedmak UNIVERSITY OF BELGRADE
	13:50	2.1.2 Impact of accelerated corrosion on fatigue strength, weld geometry, hardness and residual stresses of offshore steel joints over time	Sulaiman Shojai GERMAN AEROSPACE CENTER (DLR)
	14:10	2.1.3 A TCD-based framework for fatigue life prediction of weld geometries	Keanu Shao UNIVERSITY OF BRISTOL
	14:30	2.1.4 Fracture phase-field method based on the hyperbolic sine creep constitutive model	Desheng Kong EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	14:50	2.1.5 A novel scaling framework for fracture mechanics assessments: finite similitude theory	Peter Akhigbe-Midu ROLLS ROYCE SMR
	15:15	Refreshments/poster session	
	15:45	2.1.6 Keynote AI-assisted multiscale simulation framework for fatigue life prediction of multi-principal element alloys	Xiaogang Wang HUNAN UNIVERSITY
	16:05	2.1.7 Effect of γ' phase rafting on damage mechanism and fatigue life of a Ni-based single crystal superalloy	Ruoyao Cui HUNAN UNIVERSITY
	16:25	2.1.8 Constitutive modelling and mechanics-based creep failure prediction of ABS components under low-temperature tensile loading	Junbeom Kim SEOUL NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
	16:45	2.1.9 Investigation on multiaxial cyclic creep behaviour of Inconel 625 nickel-based alloy tubes	Zipeng He ZHEJIANG UNIVERSITY OF TECHNOLOGY
	17:05	2.1.10 Tensile mechanical properties and edge defect-driven degradation in bilayer graphene	Ting Su EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	17:30	End of Day 1	
	19:00	Drinks reception (Glasgow City Chambers)	

DAY 1: MAY 18 (CONTINUED)

Session 2.2	High Temperature Components—Chair: Hedieh Jazaeri (The Open University)		CONFERENCE ROOM 2
	13:30	2.2.1 Keynote Recent advances in multi-scale modelling and experimental validation of high-temperature materials performance within the nuclear sector	Christopher Truman UNIVERSITY OF BRISTOL
	13:50	2.2.2 Basis and validation for alternative creep-fatigue damage evaluation routes in ASME BPVC Section III Division 5 based on ductility-exhaustion	Mark Petkov ROLLS ROYCE SMR
	14:10	2.2.3 Comparative study on creep-fatigue life of equalizing pipe in supercritical thermal power plant according to deformation management strategies	Nak-kyun Cho SEOUL NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
	14:30	2.2.4 Creep-assisted corrosion of 316L austenitic steel in liquid lead-bismuth eutectic (LBE) at high-temperature	Yefeng Chen WUHAN INSTITUTE OF TECHNOLOGY
	14:50	2.2.5 Volumetric measure of creep cavitation using small angle neutron scattering	Hedieh Jazaeri THE OPEN UNIVERSITY
	15:15	Refreshments/poster session	
	15:45	2.2.6 Keynote Coupled creep-corrosion damage mechanisms of 316L in liquid lead-bismuth eutectic	Xiao-Tao Zheng WUHAN INSTITUTE OF TECHNOLOGY
	16:05	2.2.7 Microstructural evolution and thermal conductivity of cold-sprayed GR-Cop-42 following post-deposition heat treatment	Caleb Griffin UNIVERSITY OF STRATHCLYDE
	16:25	2.2.8 High-temperature phase transformation behaviour of service-exposed HP40Nb reformer steel: insights from <i>in situ</i> XRD analysis	Jayesh Shanthi Bhavan THE OPEN UNIVERSITY
	16:45	2.2.9 Multi-backbone fusion network with gated attention for high-temperature structural defect detection in X-ray images	Yaonan Dai WUHAN INSTITUTE OF TECHNOLOGY
	17:05	2.2.10 Reliability-based creep rupture assessment of nuclear reactor pressure vessel with probabilistic linear matching method framework	Xiaoxiao Wang EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	17:30	End of Day 1	
	19:00	Drinks reception (Glasgow City Chambers)	

DAY 1: MAY 18 (CONTINUED)

Session 2.3	Advances in Additive Manufacturing of Steel Structures—Chair: Pinelopi Kyvelou (Imperial College London)		CONFERENCE ROOM 3
	13:30	2.3.1 Keynote Technology-driven advances in 3D-printed steel for the built environment	Pinelopi Kyvelou IMPERIAL COLLEGE LONDON
	13:50	2.3.2 The performance of wire arc additive manufactured (WAAM) steels after corrosion-fatigue damage	Fraser O'Neill UNIVERSITY OF STRATHCLYDE
	14:10	2.3.3 Stub column tests on additively manufactured aluminium I- and C-sections	Marina Bock ASTON UNIVERSITY
	14:30	2.3.4 Influence of process parameters on the physical and material properties of WAAM steels	Athina Spinasa IMPERIAL COLLEGE LONDON
	14:50	2.3.5 Integrated design and robotic fabrication of optimized steel tube-to-plate node through wire and arc additive manufacturing	Alessandro Menghini POLITECNICO DI MILANO
	15:15	Refreshments/poster session	
	15:45	2.3.6 Potential of wire arc additive manufacturing for structural replacement components in high-tech façades	Vlad-Alexandru Silvestru ETH ZÜRICH
	16:05	2.3.7 Additive manufacturing of austenitic-martensitic bi-metallic steel for structural applications	Saad Waqar POLITECNICO DI MILANO
	16:25	2.3.8 Experimental and numerical evaluation of additively manufactured interlocking connections for hybrid lightweight steel framing systems	Ehsan Bakhshivand UNIVERSITY OF ABERDEEN
	16:45	2.3.9 Heterogeneous deformation response of stainless steel bimetallic structures fabricated via wire-arc direct energy deposition	Yipu Xu TOHOKU UNIVERSITY
	17:05	2.3.10 Material performance of additively manufactured ER90S-B3 steel	Marina Bock ASTON UNIVERSITY
	17:30	End of Day 1	
	19:00	Drinks reception (Glasgow City Chambers)	

DAY 1: MAY 18 (CONTINUED)

Session 2.4	Codes and Standards—Chair: Carol Johnston (TWI)		CONFERENCE ROOM 4
	13:30	2.4.1 Keynote BS 7910 and the plan for future revision	Yin Jin Janin TWI
	13:50	2.4.2 Challenges in obtaining reliable and consistent fracture toughness data across standards and test conditions	Adam Cooper AMENTUM
	14:10	2.4.3 Influence of creep damage on the ultimate load evaluation of RPV lower head under accident conditions	Fuli Qi ZHEJIANG UNIVERSITY OF TECHNOLOGY
	14:30	2.4.4 INCEFA-SCALE: an overview of a five year International Environmental Fatigue Testing and Analysis Project	Jack Beswick AMENTUM
	14:50	2.4.5 Offshore wind fabrication standards, challenges and opportunities	Carol Johnston TWI
	15:15	Refreshments/poster session	
	15:45	2.4.6 Unifying the crystal plasticity, Neuber/Glinka and elastic follow-up frameworks to evaluate creep-fatigue life	Christos Skamniotis IMPERIAL COLLEGE LONDON
	16:05	2.4.7 Comparative fatigue assessment of high-pressure hydrogen storage cylinders based on the S-N curve and fracture mechanics methods	Yan Li ZHEJIANG UNIVERSITY OF TECHNOLOGY
	16:25	2.4.8 Probabilistic modelling of residual stress using functional data analysis and comparison with handbook recommendations for arc-welded and electron beam-welded joints	Yin Jin Janin TWI
	16:45	2.4.9 Developing EU-DEMO design criteria for in-vessel components: multiaxial fatigue	Vishnu Ambikadevi Rajasekharan Nair UK ATOMIC ENERGY AUTHORITY
	17:05	2.4.10 Developing EU-DEMO design criteria for in-vessel components: design rules for joints	Jacob Taylor UK ATOMIC ENERGY AUTHORITY
	17:30	End of Day 1	
	19:00	Drinks reception (Glasgow City Chambers)	

DAY 1: MAY 18 (CONTINUED)

Session 2.5	Probabilistics, Big Data and Machine Learning—Chairs: Tan Sui (University of Surrey) and Shen Li (University of Strathclyde)		CONFERENCE ROOM 5
	13:30	2.5.1 Keynote Machine learning powered predictive modelling of complex residual stress for nuclear fusion reactor design	Tan Sui UNIVERSITY OF SURREY
	13:50	2.5.2 Machine learning assisted rapid residual stress simulation for laser powder bed fusion additive manufacturing	Ruiyao Zhang ISIS NEUTRON AND MUON SOURCE
	14:10	2.5.3 A probabilistic assessment framework for predicting nuclear waste canister breaching	Georgia Schneider TWI
	14:30	2.5.4 Multi-concept constrained Bayesian optimisation for advanced manufacturing process parameter selection	Gregory Nelson FRAZER-NASH CONSULTANCY
	14:50	2.5.5 Adaptive ensemble of surrogates for efficient reliability analysis of offshore renewable energy structures	Jinsheng Wang UNIVERSITY OF STRATHCLYDE
	15:15	Refreshments/poster session	
	15:45	2.5.6 Uncertainty-aware transfer learning for reliability assessment via graph-based uncertainty propagation	Yuanze Tang EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	16:05	2.5.7 A machine learning benchmark for predicting maximum external corrosion depth in buried pipelines	Anthony Ashwin Peter Chazhoor NORTHUMBRIA UNIVERSITY/ROSEN GROUP
	16:25		
	16:45		
	17:05		
	17:30	End of Day 1	
	19:00	Drinks reception (Glasgow City Chambers)	

DAY 2: MAY 19

Session 3	Plenary Talk II—Chair: Prof Shan-Tung Tu (East China University of Science and Technology)			AUDITORIUM B and C		
	08:30	3.1 Structural integrity of biomedical devices		Professor David Nash UNIVERSITY OF STRATHCLYDE		
	09:00	3.2 Reliability-centred manufacturing and case studies for mechanical and electronic systems		Professor Zhengfang Qian WUHAN INSTITUTE OF TECHNOLOGY		
	09:30	3.3 Failure analysis and structural integrity assessment of important pressure equipment in China		Professor Xuedong Chen CHINA NATIONAL MACHINERY INDUSTRY CORPORATION (SINOMACH)		
	10:00	3.4 From shear bands to white etching areas: unifying the origin of subsurface damage under rolling contact fatigue of bearings		Professor Shuxin Li NINGBO UNIVERSITY		
	10:30	Refreshments/poster session				
	10:45	Roundtable Discussion I The next frontier: standardised design and assessment in structural integrity incorporating AI	Panel Discussion Moderator Professor Luca Susmel SHEFFIELD HALLAM UNIVERSITY	Panel Members Professor Keith Worden UNIVERSITY OF SHEFFIELD Michael Overd LEONARDO HELICOPTERS	Professor Anthony Croxford UNIVERSITY OF BRISTOL Dr Nicolas Larrosa UNIVERSITY OF BRISTOL/TECNALIA John Yates EIS DIRECTOR	
	12:00	Roundtable Discussion II Perspectives on how to build successful collaboration between UK Forum for Engineering Structural Integrity (FESI), Engineering Integrity Society (EIS), European Structural Integrity Society (ESIS), and China structural Integrity Consortium (CSIC)	Panel Discussion Moderator Paul Woollin TWI	Panel Members Mayur Jagatia FESI Professor Aleksandar Sedmak ESIS	John Yates EIS Professor Shang-Tung Tu CSIC	
	12:30	Lunch				

DAY 2: MAY 19 (CONTINUED)

Session 4.1	Fatigue, Creep and Fracture II—Chairs: Christos Skamniotis (Imperial College London) and Oliver Blakesley (Amentum)	CONFERENCE ROOM 1
	13:30 4.1.1 Keynote Effects of residual stress and oxidation on very high cycle fatigue behaviours of Inconel 718	Jian-Feng Wen EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	13:50 4.1.2 Ductile fracture analysis of Ti-2Al-2.5Zr influenced by microscopic deformation behaviour	Haiyu Li SPALLATION NEUTRON SOURCE SCIENCE CENTER
	14:10 4.1.3 A robust finite element modelling framework for cyclic thermomechanical stress and plastic-creep strain evaluation in breeding blanket structures	Fei Luo KING'S COLLEGE LONDON
	14:30 4.1.4 Fatigue life prediction of type 316L stainless steel in lead-bismuth environment using physics-informed neural network	Jiuyang Yu WUHAN INSTITUTE OF TECHNOLOGY
	14:50 4.1.5 Creep crack growth analysis using finite element deletion approach for combined loading	Nayden Matev AMENTUM CLEAN ENERGY
	15:15 Refreshments/poster session	
	15:45 4.1.6 Keynote Damage assessment of aero-engine turbine disk under ETOPS condition	Xiaowei Wang NANJING TECH UNIVERSITY
	16:05 4.1.7 Evaluating the applicability of a local limit load solution for assessing defects in complex geometries	Oliver Blakesley AMENTUM
	16:25 4.1.8 Matching of fracture and constrain parameters among different type specimens	Suraj Kunder UNIVERSITY OF BRISTOL
	16:45 4.1.9 Effect of high angle grain boundary on plastic deformation and fracture of micro-bicrystal copper: an <i>in situ</i> SEM experimental and multiscale simulation study	Shijia Wan EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	17:05 4.1.10 Evolution of primary creep regeneration in nuclear-grade 316H stainless steel under cyclic creep loading	Cheng Gong WUHAN INSTITUTE OF TECHNOLOGY
	17:30 End of Day 2	
	19:00 Conference dinner (The Barony)	

DAY 2: MAY 19 (CONTINUED)

Session 4.2	Hydrogen Production, Transportation and Storage—Chairs: Sophie Zhang (NPL) and Nicolas Larrosa (University of Bristol)		CONFERENCE ROOM 2
	13:30	4.2.1 Keynote Structural integrity research on repurposed Norwegian natural gas offshore pipelines for hydrogen gas transport—overview and recent results	Vigdis Olden SINTEF AS
	13:50	4.2.2 From assessment to application: lifing methodology of hydrogen pressure systems	Charlie Hutchings UNIVERSITY OF SURREY/FRAZER-NASH CONSULTANCY
	14:10	4.2.3 Failure analysis of hollow X60 and X65 steel samples under pressurized hydrogen environments	Muhammad Uzair Malik UNIVERSITY OF BRISTOL
	14:30	4.2.4 Hydrogen trapping and microstructural effects in tailored nickel crystals grown by the Czochralski technique	Gaurav Singh LA ROCHELLE UNIVERSITY/LASIE
	14:50	4.2.5 The universal failure curve for the design and safety margins assessment in hydrogen infrastructure: a paradigm shift	Nicolas Larrosa UNIVERSITY OF BRISTOL
	15:15	Refreshments/poster session	
	15:45	4.2.6 Ti-based metal hydrides for hydrogen storage and compression applications	Lydia Pickering UNIVERSITY OF BIRMINGHAM
	16:05	4.2.7 Synergistic structural and interfacial regulation of flake graphite and ionic liquid for enhanced hydrogen barrier performance of HDPE	Chongyu Yang COLLEGE OF ENERGY ENGINEERING, ZHEJIANG UNIVERSITY
	16:25	4.2.8 Physics-informed data generation and data-driven prognostics for RUL prediction of hydrogen storage cylinders	Panpan Xu AMRC
	16:45	4.2.9 A critical review of testing approaches for hydrogen embrittlement of pipeline steels	Sophie Zhang NATIONAL PHYSICAL LABORATORY
	17:05	4.2.10 Qualification framework for additively manufactured pressure vessels in hydrogen service	Ali Bakir TWI
	17:30	End of Day 2	
	19:00	Conference dinner (The Barony)	

DAY 2: MAY 19 (CONTINUED)

Session 4.3	Renewable Energy Structures—Chairs: Jessica Taylor (Kent Energies) and Adam Jan Sadowski (Imperial College London)		CONFERENCE ROOM 3
	13:30	4.3.1 Keynote FOWT asset integrity. What's the difference?	Robin O'Connell KENT ENERGIES
	13:50	4.3.2 Next-generation fatigue design for offshore wind structures	Helen Bartsch RWTH AACHEN UNIVERSITY
	14:10	4.3.3 A comprehensive review and analysis of fatigue crack growth data for offshore wind applications: air environment	Madison Asbury UNIVERSITY OF STRATHCLYDE
	14:30	4.3.4 Investigation of the feasibility of applying aluminium honeycomb panels within offshore renewable energy structures	Olga Ganilova UNIVERSITY OF STRATHCLYDE
	14:50	4.3.5 A review and analysis of current fatigue crack growth rate data for offshore wind application: seawater free-corrosion environment	Moray Stiven UNIVERSITY OF STRATHCLYDE
	15:15	Refreshments/poster session	
	15:45	4.3.6 Keynote Where do you think design rules for buckling come from?	Adam Jan Sadowski IMPERIAL COLLEGE LONDON
	16:05	4.3.7 Data analysis of S-N fatigue data for offshore wind applications	Federico Della Santa UNIVERSITY OF STRATHCLYDE
	16:25	4.3.8 Fatigue of high strength steels for tidal turbine support structures	Machar Devine UNIVERSITY OF STRATHCLYDE
	16:45	4.3.9 Improved fatigue calculation of attachment welds in offshore wind structures using additive Mk factor	Jessica Taylor KENT ENERGIES
	17:05	4.3.10 Development of a corrosion fatigue database for offshore steel structures and derivation of new S-N curves	Sulaiman Shojai GERMAN AEROSPACE CENTER (DLR)
	17:30	End of Day 2	
	19:00	Conference dinner (The Barony)	

DAY 2: MAY 19 (CONTINUED)

Session 4.4	Surface Treatment and Coating—Chair: Beatriz Mingo (University of Manchester)		CONFERENCE ROOM 4
	13:30	4.4.1 Keynote A new microstructural design for thermal barrier coatings to mitigate molten silicate attack	Ying Chen UNIVERSITY OF MANCHESTER
	13:50	4.4.2 Synchronous double-sided ultrasonic rolling: machine vision-assisted surface strengthening, prominent high-temperature vibration fatigue resistance, and blade simulator applications	Huayi Cheng EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	14:10	4.4.3 Tuning corrosion performance of Mg alloy by inhibitor and PEO coating	Xiaopeng Lu NORTHEASTERN UNIVERSITY
	14:30	4.4.4 High-temperature fatigue strength enhancement and online surface roughness prediction of thin-walled titanium alloy components treated by submerged deflecting waterjet peening	Yuxin Chi EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	14:50	4.4.5 Deposition of multilayer PEO–CeO ₂ /Al ₂ O ₃ coatings on Mg alloys by aerosol co-deposition	Runqi Liu UNIVERSITY OF MANCHESTER
	15:15	Refreshments/poster session	
	15:45	4.4.6 Linking microscale deformation mechanisms to macroscopic erosion resistance in TiAlN/Ti multilayer coatings	Yu Zhang EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	16:05	4.4.7 Influence of soft sparking on the corrosion performance of PEO coatings on aluminium	Beatriz Mingo UNIVERSITY OF MANCHESTER
	16:25	4.4.8 A multiscale model for failure prediction in rare-earth tantalate thermal barrier coatings due to interfacial oxidation	Weize Wang EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	16:45	4.4.9 Fibrous silica sealing post-treatments for enhanced aluminium corrosion protection	Tiantian Liao UNIVERSITY OF MANCHESTER
	17:05	4.4.10 Microstructure–mechanical property modeling of gradient nanostructures induced by surface mechanical grinding treatment	Guoyao Chen WUHAN INSTITUTE OF TECHNOLOGY
	17:30	End of Day 2	
	19:00	Conference dinner (The Barony)	

DAY 2: MAY 19 (CONTINUED)

Session 4.5	Failure Analysis of Composite Materials—Chairs: Meisam Jalalvand (University of Southampton) and Xiaodong Xu (Cranfield University)		CONFERENCE ROOM 5
	13:30	4.5.1 Keynote Tailoring composite mechanical properties through post-processing parameters in composite-based additive manufacturing (CBAM)	Juhyeong Lee UTAH STATE UNIVERSITY
	13:50	4.5.2 Studies on the impact response of composite hydrofoil structures for future maritime propulsion systems	Scott Millen QUEEN'S UNIVERSITY OF BELFAST
	14:10	4.5.3 Erosion modelling of composite tidal turbine materials through combined experimental testing and CFD-based particle impact analysis	Payvand Habibi UNIVERSITY OF STRATHCLYDE
	14:30	4.5.4 Failure mechanism transition and structural enhancement of fibre reinforced thermoplastic electrofusion joints	Deyi Wang ZHEJIANG UNIVERSITY
	14:50	4.5.5 Hybrid composite overload sensors to monitor real-life subsea pipes	Meisam Jalalvand UNIVERSITY OF SOUTHAMPTON
	15:15	Refreshments/poster session	
	15:45	4.5.6 Durability of glass-reinforced polymer composites (GRP) in seawater containing sulphate-reducing bacteria (SRB)	Trevor Hodgkiess UNIVERSITY OF GLASGOW
	16:05	4.5.7 Trans-laminar fracture in quasi-isotropic carbon/epoxy laminates under different environmental conditions	Xiaodong Xu CRANFIELD UNIVERSITY
	16:25	4.5.8 Physics-informed neural networks for predicting lightning damage in CFRP composites	Juhyeong Lee UTAH STATE UNIVERSITY
	16:45	4.5.9 A numerical study of metal-composite hybrid joints	Yigeng Xu CRANFIELD UNIVERSITY
	17:05		
	17:30	End of Day 2	
19:00	Conference dinner (The Barony)		

DAY 3: MAY 20

Session 5.1	Fatigue, Creep and Fracture III—Chairs: Christos Skamniotis (Imperial College London) and Oliver Blakesley (Amentum)		CONFERENCE ROOM 1
	08:30	5.1.1 An analytically-based method for interpreting impression creep test data	Raheeg Ragab EFG RESEARCH AND DEVELOPMENT CENTRE (UK)
	08:50	5.1.2 Influence of LPBF layer height and surface finish on rotating bending fatigue of scalmalloy	Ahmad Serjouei NOTTINGHAM TRENT UNIVERSITY
	09:10	5.1.3 Shakedown analysis of structures with anisotropic rate dependent plastic and non-linear creep behaviour: application to single crystal nickel alloys under the CPFE framework	Kefan Qiu UNIVERSITY OF LEICESTER
	09:30	5.1.4 Tailoring the mechanical properties of laser beam powder bed fusion 316L stainless steel through inter-track remelting-induced texture control	Zhen Zhang NANJING TECH UNIVERSITY
	09:50	5.1.5 Creep-fatigue lifetime assessment of the European helium-cooled pebble bed breeding blanket using inelastic design-by-analysis	Kah Heng Liew UK ATOMIC ENERGY AUTHORITY
	10:15	Refreshments/poster session	
	10:45	Early Career Networking Session The FESI Early Career Council (ECC) would like to invite all young professionals (both FESI and CSIC affiliated) to this event, from masters/PhD students to those ten years into their career, who would like to establish networks with others. CONFERENCE ROOM 1	
	12:30	Closure, awards, and lunch (LEVEL 2 FOYER)	

DAY 3: MAY 20

Session 5.2	Computational Methods—Chair: Olga Ganilova (University of Strathclyde)	CONFERENCE ROOM 2
	08:30 5.2.1 Keynote Deriving the anisotropic material properties of particulate composite materials utilising the representative volume element method through the length scales	Salah Muflahi ROLLS ROYCE
	08:50 5.2.2 Can we optimise multi-segment shells using a GMNIA model?	Molly Balassa IMPERIAL COLLEGE LONDON
	09:10 5.2.3 Factors affecting the variability of fatigue life for large scale as-welded specimens	Emmet McLaughlin UNIVERSITY OF STRATHCLYDE
	09:30 5.2.4 Ratcheting behavior of notched P92 steel: mechanisms, constitutive modeling, and life prediction	Feilong Hua EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	09:50 5.2.5 Optimization of multi-blade centrifugal fan with small width-diameter ratio based on slip coefficient correction	Zhenghui Wu ZHEJIANG UNIVERSITY OF TECHNOLOGY
	10:15 Refreshments/poster session	
	10:45 5.2.6 Computational investigation of coupled heat transfer and natural convection in molten salt storage tank foundations	Wei-Tong Zhou LANPEC TECHNOLOGIES LTD
	11:05 5.2.7 Simulation of irradiation-induced embrittlement effects in CLF-1 steel	Kaishu Guan EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	11:25 5.2.8 Modelling fatigue crack growth from micro-scale discontinuities in additively manufactured components	Ramesh Chandwani ZENTECH INTERNATIONAL LTD
	11:45	
	12:05	
	12:30 Closure, awards, and lunch (LEVEL 2 FOYER)	

DAY 3: MAY 20

Session 5.3	Environmental Assisted Cracking—Chair: Dirk Engelberg (University of Manchester)		CONFERENCE ROOM 3
	08:30	5.3.1 Keynote Environmentally assisted cracking: from pits to cracks	Robert Akid UNIVERSITY OF MANCHESTER
	08:50	5.3.2 SCC of stainless steels and how to prevent it	Roger Francis RF MATERIALS
	09:10	5.3.3 Characterisation of oxide layer formed at the crack tip of 316 SS after low-cycle fatigue tests in simulated PWR primary water environment	Hasan Izhar Khan KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY
	09:30	5.3.4 Parametric investigation of crack propagation in composite cathode particles for all-solid-state batteries using phase-field modelling	Xinyuan Shi EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	09:50	5.3.5 Environmentally assisted cracking of stainless steel—from time-lapse imaging, residual-stress driven crack nucleation, to simulated marine environment exposures	Dirk Engelberg UNIVERSITY OF MANCHESTER
	10:15	Refreshments/poster session	
	10:45	5.3.6 Keynote Tuning second-phases in metallic materials for harsh environments	Binhan Sun EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	11:05	5.3.7 Environment-induced subsurface hardening in 316h stainless steel under oxygen-saturated lead-bismuth eutectic conditions: a micropillar compression study	Wen-Rui Nie EAST CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY
	11:25	5.3.8 Using a phase field method to model the role of hydrogen in crack propagation under a 4-point bend set up in aluminium alloys	Nicholas Brinkworth UNIVERSITY OF MANCHESTER
	11:45	5.3.9 Evaluating hydrogen embrittlement with ultrasound	Ming Huang UNIVERSITY OF SUSSEX
	12:05	5.3.10 Study on hydrogen trap characteristics of 4130X steel under high-temperature and ambient-temperature high-pressure hydrogen charging conditions	Yu Zhou HEFEI GENERAL MACHINERY RESEARCH INSTITUTE
	12:30	Closure, awards, and lunch (LEVEL 2 FOYER)	

DAY 3: MAY 20

Session 5.4		Residual Stresses—Chair: Harry Coules (Amentum)	CONFERENCE ROOM 4
	08:30	5.4.1 Keynote Post-weld heat treatment of ferritic steel pressure vessels and residual stress	Harry Coules AMENTUM
	08:50	5.4.2 Impact of welding residual stress on fatigue cracks and a low-cost surrogate method for sample preparation	Jialin Wang UNIVERSITY OF BRISTOL
	09:10	5.4.3 Characterising residual stresses in repair welds in pipe welds using machine learning	Albert Dellor THE OPEN UNIVERSITY
	09:30	5.4.4 Recent advances in neutron diffractometer for stress analysis and its applications at China Mianyang Research Reactor (CMRR)	Zhijian Fan CHINA ACADEMY OF ENGINEERING PHYSICS
	09:50	5.4.5 Small punch test reveals the mechanical properties for welding joint and additive manufacturing materials	Jian Peng CHANGZHOU UNIVERSITY
	10:15	Refreshments/poster session	
	10:45	5.4.6 Weld residual stress prediction in transforming steels of nuclear pressure vessels	Robin Laurence UNIVERSITY OF MANCHESTER
	11:05	5.4.7 Plane-dependent residual stress and elastoplastic response in low temperature carburized L-PBF 316L: roles of texture and carbon	Yajian Feng NANJING TECH UNIVERSITY
	11:25		
	11:45		
	12:05		
	12:30	Closure, awards, and lunch (LEVEL 2 FOYER)	

DAY 3: MAY 20

Session 5.5	Structural Health Monitoring, Inspection and Maintenance and Advanced Manufacturing, Joining and Forming Technologies (Combined)—Chairs: Anthony Croxford (University of Bristol) and Saeid Lotfian (University of Strathclyde)		CONFERENCE ROOM 5
	08:30	5.5.1 On the accuracy of hardness testing to determine the strength of re-used structural steel	Finian McCann LOUGHBOROUGH UNIVERSITY
	08:50	5.5.2 Machine learning techniques for NDT and SHM	Anthony Croxford UNIVERSITY OF BRISTOL
	09:10	5.5.3 High-resolution crack monitoring of pressure-containing equipment using permanently installable ultrasonic array stickers	Jingwei Cheng HEFEI GENERAL MACHINERY RESEARCH INSTITUTE COMPANY
	09:30	5.5.4 Analysis of wear to primary moisture separator (PMS) condensate drain holes within steam generators (SGs)	Hussein Jusab KINECTRICS UK
	09:50		
	10:15	Refreshments/poster session	
	10:45	5.5.6 Revealing microgravity effects on metal solidification via correlative methods	Fan Wu UNIVERSITY OF MANCHESTER
	11:05	5.5.7 Laser polishing of LPBF IN718 forms dislocation cells and enhances high temperature ductility	Mingze Xin BEIHANG UNIVERSITY
	11:25	5.5.8 Characterisation and failure analysis of Inconel 718 fabricated by laser metal deposition for marine applications	Saeid Lotfian UNIVERSITY OF STRATHCLYDE
	11:45	5.5.9 Research on aeroacoustic performance of condenser axial fan based on adjoint topology optimization	Zhenghui Wu ZHEJIANG UNIVERSITY OF TECHNOLOGY
	12:05		
	12:30	Closure, awards, and lunch (LEVEL 2 FOYER)	