

NSIRC 2020 LIVE AGENDA

23 JULY

OUR ANNUAL CONFERENCE
IN A NEW ONLINE FORMAT

We are delighted to bring you the NSIRC Annual Conference as an online experience this year, which means that we can continue to provide you with access to over 30 PhD research presentations by NSIRC students, and give our students a platform from which to disseminate their research and its impact on industry. Our students are all safe and working hard from home, and this new conference format is our solution to the situation the world finds itself in as a result of COVID-19.

NSIRC 2020 Live will be broadcast on Thursday 23 July 2020 and the PhD students' presentations will highlight the world-leading engineering research they are producing on additive manufacturing, composites and polymers, and structural Integrity, amongst others.

The agenda will include live Q&A interactive sessions with the students, along with three keynote speakers.

9:25 Dr Abbas Mohimi , Head of Public Funding, TWI INTRODUCTION & WELCOME			
9:30 Prof Tat-Hean Gan , NSIRC Director, NSIRC NSIRC and ITS INDUSTRIAL IMPACT			
9:40 KEYNOTE SPEAKER: Dr Jeremy Silver , Chief Executive Officer, Digital Catapult SEND in THE DRONES			
ROOM 1: ADDITIVE MANUFACTURING CHAIR: Nenad Djordjevic	ROOM 2: COATINGS TECHNOLOGIES CHAIR: Dave Harvey	ROOM 3: STANDARDS & MAINTENANCE METHODOLOGIES CHAIR: James Campbell	ROOM 4: INSPECTION & MONITORING CHAIR: Jamil Kanfoud
10:00 Mason Rowbottom Study of Cause and Effect of Thermal Induced Focal Shifts within the SLM Process of AISi10Mg	10:00 Aamna Asad Understanding the structure function relationships of super-omniphobic nanoparticles using magnetic resonance techniques	10:00 Oliver Logan Fracture Toughness Testing of Non-sharp Defects-Assessing constraint effects in notched modified boundary layer models	10:00 Faris Nafiah Pulsed Eddy Current: Signal Feature Enabling In-situ Calibration
10:20 Mehran Shahriarifar Effect of Build Direction and Heat-treatment on Microstructure and Tensile Properties of L-PBF 316L Stainless Steel	10:20 Ana Antelava Development of Super Repellent Coatings	10:20 Konstantinos Kouzoumis Biaxial loading effects on the integrity of flawed components Design of Experiments	10:20 Zhiyao Li New development of spatial phase shift shearography for wind turbine blade inspection
10:40 Emre Akgun Porosity Defects in Additive Manufactured Titanium Ti6Al4V and their Influence on Fatigue Performance	10:40 Craig Melton Corrosion Sensing Coating Viability Testing	10:40 Domenic Di Francesco Improved Estimation of Fatigue Crack Growth Rate by Partial Pooling of Test Data in Bayesian Models	10:40 Hesham Yusuf Semantic Feature Extraction of Defects in X-Ray Scans of Metallic Plates
11:00 BREAK			
11:20 KEYNOTE SPEAKER: Prof Mark Gillan , Chief Technology Officer, InnovateUK INNOVATE UK: INVESTING and CONNECTING to ACCELERATE UK INNOVATION			
ROOM 1: ADDITIVE MANUFACTURING	ROOM 2: COATINGS TECHNOLOGIES	ROOM 3: STANDARDS & MAINTENANCE METHODOLOGIES	ROOM 4: INSPECTION & MONITORING
11:40 Gowtham Soundarapandiyar Ti6Al4V Powder Degradation in Electron beam Powder Bed Fusion Additive Manufacturing	11:40 Berenika Syrek Thermally Sprayed Aluminium (TSA) Coatings for Corrosion Protection of Steel Effect of Temperature	11:40 Hadi Khalili Different Bayesian Methods for Updating the Distribution of Fatigue Crack Size	11:40 Afnan Islam Development of cost effective permanently installed corrosion monitoring system with permanent magnets
12:00 Madie Allen Numerical Modelling Methods for the Prediction of Microstructure in Metal AM	12:00 Rosa Grinon Evaluation of corrosion protection offered by sacrificial Thermal Spray Coatings for offshore applications	12:00 Matthew Weltevreden A Review of the Treatment of Residual Stress in BS 7910 Fracture Assessment	12:00 Xuening Zou Automatic defect detection and localization in austenitic stainless steel cladding
		12:20 Jessica Taylor Compact Crack Arrest testing of EH47 Shipbuilding Steel	12:20 Han Yang Crack growth prediction and monitoring of hydrogen induced cracking under biaxial stress conditions
12:40 LUNCH			
13:40 KEYNOTE SPEAKER: Prof Andrew Curran , Chief Scientific Adviser and Director of Research, HSE HEALTH and SAFETY in a POST-COVID WORLD: UNDERSTANDING RISK, USING RESEARCH and BUILDING RESILIENCE			
ROOM 5: JOINING TECHNOLOGIES CHAIR: Paola De Bono	ROOM 6: COMPOSITES & POLYMERS CHAIR: Jasmin Stein	ROOM 7: ADDITIVE MANUFACTURING & JOINING TECHNOLOGIES CHAIR: Nick Ludford	ROOM 8: STRUCTURAL INTEGRITY CHAIR: Emily Hutchison
14:00 Andrew Sandeman Plasma cathode electron beam for high-integrity materials processing	14:00 Dimitrios Fakis Electromagnetic Surface Waves on Fibre-reinforced Composite Substrates	14:00 Marie-Salome Duval-Chaneac Effect of heat treatment on the microstructure and fatigue behaviour of 316L/IN718 layered structure made by multiple material additive manufacturing (MMAM)	14:00 Vishal Vats An investigation on feasibility of using FTIR for Cr (VI) analysis in welding fumes
14:20 Chris Nyamayaro Underwater laser cutting in hyperbaric conditions	14:20 Changyi Yu Effect of Insufficient Homogenization During the Extrusion of Polyethylene Pipes on Butt Fusion Joint Integrity	14:20 Stephen Cullen Assessment of Part Geometry and Distortion in Additive Manufacturing Through Direct Energy Deposition with Laser	14:20 Ahmed Teyeb Investigation of the use of ultrasonic power for the improvement of manufacturing processes
14:40 BREAK			
15:00 Bowei Li Laser Riveting: an innovative technique for dissimilar composite to metal joining	15:00 Faranak Bahrami Thermally Assisted Piercing; Manufacture and Properties of Multiply-Pierced Composites	15:00 Helen Elkington Laser Beam Direct Energy Deposition– the Effect of Process Parameters on Metallurgical and Mechanical Properties	15:00 Alessandro Sergi Hot Isostatic Pressing of IN625 Powder: Influence of Atomisation route on Microstructure and Mechanical Properties
15:20 George Brooks Investigation into the influence of Friction Stir Welding in thick section aluminium alloys			15:20 Shuang Yan Multi-phase multi-physics predictive modelling in composites forming
15:40 Pedro Santos Influence of tool material and design on the mechanical and microstructural properties of refill friction stir spot welds			
16:00 Dr Abbas Mohimi , Head of Public Funding, TWI CLOSING WORDS			