

NSIRC 2019 Annual Conference



Day One – Tuesday 2 July

- 9:00 Registration and Refreshments
- 9:30 Introduction and Welcome – **Tat-Hean Gan**, Director of Technology, NSIRC
- 10:00 Keynote Speaker – **David Holmes**, Manufacturing Director, BAE Systems' Air Sector

Lecture Room 1

Theme: Additive Manufacturing / Advancing Crack Arrest

Lecture Room 2

Theme: Composites and Polymers

- 10:30 **Madie Allen**
Predicting the microstructure of metal additively manufactured parts
- 10:50 **Emre Akgun**
Effect of porosity on fatigue strength of SLM Ti6Al4V
- Dimitrios Fakis**
Electromagnetic surface waves on fibre-reinforced composite substrates
- Changi Yu**
Effect of insufficient homogenisation during the extrusion of polyethylene pipes on butt fusion joint integrity

11:10 *Break*

- 11:25 **Ali Same**
Development of advanced crack modelling techniques for structural integrity assessment
- 11:50 **Jessica Taylor**
What is the correlation between crack initiation and arrest behaviour?
- Athanasios Pouchias**
Flow monitoring system for the resin transfer moulding process
- Faranak Bahrami**
Thermally assisted piercing; manufacture and properties of multiply-pierced composite

12:15 *Lunch*

-
- 13:00 Keynote Speaker – **Elizabeth Donnelly**, Chief Executive Officer, Women's Engineering Society

Lecture Room 1

Theme: Inspection Technologies and Monitoring

Lecture Room 2

Theme: Standards and Maintenance Methodologies

- 13:30 **Houman Nakhli Mahal**
Detection of defects in guided-wave inspection of pipelines
- 13:55 **Harendra Kumar**
On the Development of an Ultrasonic Technique Enabling Detection of Type IV Creep at Early Stage
- Habiba Lais**
Optimisation of the non-invasive ultrasonic fouling removal technique for submerged structures
- Fernando Galvan**
Wave decomposition in a mooring chain to monitor cracks

14:20 *Break*

- 14:35 **Zhiyao Li**
Advanced shearography for wind turbine blade inspection
- 14:55 **Hadi Khalili**
Updating the distribution of uncertain parameters involved in the fatigue analysis
- Konstantinos Kouzoumis**
Effects of biaxiality on engineering critical assessments
- Domenic di Francesco**
Quantification of the value of inspecting for fatigue cracks

15:15 Poster Session

16:15 Close

NSIRC 2019 Annual Conference



Day Two – Wednesday 3 July

9:00	Registration and Refreshments	
9:20	Keynote Speaker – Alasdair Coates , Chief Executive Officer, Engineering Council	
	Lecture Room 1 Theme: Joining Technologies	Lecture Room 2 Theme: Structural Integrity and Performance of Additive Manufacturing
9:50	Karan Derekar Microstructural investigations into WAAM of aluminium	Kostas Georgilas Effect of post thermal treatments on L-PBF IN718 material
10:15	André Oliveira Joining dissimilar materials for future automotive structures	Cui Er Seow Wire + arc additively manufactured Inconel 718: effect of heat treatments
10:40	Chris Nyamayaro Underwater laser cutting	Dibakor Boruah Structural Integrity Assessment of Cold Sprayed Ti-6Al-4V
11:05	<i>Break</i>	
11:20	Pedro Santos Refill friction stir spot welding parameter optimisation for transport	Mehran Shahrirafar Characterisation of AISI 316L produced by laser powder bed fusion
11:40	Andrew Sandeman Plasma cathode electron beam for high-integrity processing	Gowtham Soundarapandiyam Effect of post thermal treatment on Ti6Al4V parts fabricated by EB-PBF
12:00	Mike Walker Development of high entropy alloys for cold spray additive manufacturing	Xu Liu Effect of mean stress in variable amplitude fatigue loading on welds
12:20	<i>Lunch</i>	
	Lecture Room 1 Theme: Coatings – Protection and Repair	Lecture Room 2 Theme: Advanced Non-Destructive Testing
13:00	Alexandre Sabard Effect of solution heat treatment of Al powder on cold spray deposition	Tomas Každailis Development of non-destructive testing methods for on-line quality control of objects made by 3D printing
13:25	Angelo La Rosa Impact of silica particles as additives for novel materials	Usama Javid Experimental evaluation of residual stresses using acoustic emission
13:50	<i>Break</i>	
14:05	Rosa Griñón Cathodic protection of steel by TSA coatings in marine environments	Juvaria Syeda Image analysis for complex data in non-destructive testing
14:30	Ana Antelava Development of durable super repellent coatings	
14:50	Networking	
15:15	Awards and Closing Words	
15:40	Awards Photos	