

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 – **Khadija Al Daghar**, Research & Technology Development Manager, ADNOC

Lecture Room 1

Theme: Additive Manufacturing / Advancing Crack Arrest

- 10:30 **Madie Allen**
Development of advanced material modelling for metal additive manufacturing
- 10:50 **Emre Akgun**
Critical defect size in additive manufactured metallic components

Lecture Room 2

Theme: Composites and Polymers

- Dimitrios Fakis**
Data transfer through composite risers
- Changi Yu**
Effect of insufficient homogenisation of pigmented resin during the extrusion of polyethylene pipes on the mechanical performance of butt fusion welds

11:10 *Break*

- 11:25 **Ali Same**
Development of advanced crack modelling techniques for fracture mechanics assessments

- Athanasios Pouchias**
Simulation tool development for a composite manufacturing process default prediction

- 11:50 **Jessica Taylor**
Assessment of crack arrest behaviour of modern structural steels

- Faranak Bahrami**
Joining thermoplastic composites to metals

12:15 *Lunch*

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

Lecture Room 1

Theme: Inspection Technologies and Monitoring

- 13:30 **Houman Nakhli Mahal**
Coded wave forms for high resolution ultrasonic guided wave response of complex structures
- 13:55 **Harendra Kumar**
An integrated approach for evaluation of microstructure and mechanical properties degradation in steels used at elevated temperatures

Lecture Room 2

Theme: Standards and Maintenance Methodologies

- Habiba Lais**
Removal of fouling in submerged structures using high power guided ultrasonic waves
- Fernando Galvan**
Active vibration control and condition monitoring of flexible mooring chain

14:20 *Break*

- 14:35 **Zhiyao Li**
Development of an advanced shearography for wind turbine blade inspection on a wind tower

- Konstantinos Kouzoumis**
Compatibility of BS 7910 and R6 in assessing the integrity of components with complex loading history under multi-axial loading

- 14:55 **Hadi Khalili**
Development of algorithms for the assessment of the reliability of offshore structures with the application of Bayesian methods to incorporate new information

- Domenic di Francesco**
Enhancement of risk based inspection for structural integrity management

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 Minimisation and quantification of weld cladding defects for rail and oil and gas sector applications	Kostas Georgilas Multiscale experimental and computational techniques for optimising selective laser melting additive manufacturing process parameters
10:15	André Oliveira Joining dissimilar materials for future automotive structures	Cui Er Seow Structural integrity assessment for wire and arc additive manufacturing
10:40	Mike Walker Cold spray additive manufacturing with nanostructured multicomponent equi-molar materials	Dibakor Boruah The development of enhanced structural integrity assessment methods applied to additive manufacturing for the rectification and repair of metallic components using power beam and gas-shielding deposition techniques

11:05 *Break*

11:20	Pedro Santos Developing and understanding similar and dissimilar material refill friction stir welded joints	Mehran Shahrifafar Structural integrity and qualification of 316L austenitic stainless steel by optimisation of additive manufacturing process parameters
11:40	Andrew Sandeman Advanced electron beam gun design for high integrity processing	Gowtham Soundarapandiyan Evolution of properties and composition of material powders in additive manufacturing
12:00	Chris Nyamayaro Underwater laser materials processing	Xu Liu Study of strain based low cycle thermal fatigue

12:20 *Lunch*

	Lecture Room 1 Theme: Coatings – Protection and Repair	Lecture Room 2 Theme: Advanced Non-Destructive Testing
13:00	Alexandre Sabard Cold spray deposition of precipitation-hardenable aluminium alloys for structural repairs	Tomas Každailis Non-destructive in-line inspection of components made by additive manufacturing
13:25	Berenika Syrek-Gerstenkorn Using nanostructured coatings and hydrogen embrittlement of high strength steel	Ewan Hoyle Advanced virtual source aperture ultrasonic imaging for non-destructive testing
13:50	Angelo La Rosa Development of nanoscale components with advanced functionalities for erosion and ice resistant composite for severe operating conditions	Usama Javid Non-destructive evaluation of stress and heterogeneity using acoustic methods

14:15 *Break*

14:30	Rosa Griñón A mechanistic approach to predicting the realistic long-term corrosion performance of coatings	Juvaria Syeda Image analysis for complex data in non-destructive testing
14:55	Ana Antelava Development of durable super repellent coatings	Owen Rees-Lloyd Optimisation of electromagnetic acoustic transducers for inspection of rail

15:20 Networking

15:45 Awards and Closing Words

16:15 Awards Photos
