



**ADVANCING
COMPOSITES
INNOVATION
CONFERENCE**



**Composites
Australia**

3-4 April 2019, The Kirribilli Club, 11 Harbourview Cres,
Lavender Bay, NSW, Australia

Conference details

The conference includes two days of presentations, a welcome reception and conference dinner. It is also preceded by a technology workshop.

Conference:

When: Wednesday 3rd and Thursday 4th April 2019

Where: The Kirribilli Club, 11 Harbourview Crescent, Lavender Bay, NSW 2060

Technology Workshop (half day)

When: Tuesday 2nd April 2019

Where: The Kirribilli Club, 11 Harbourview Crescent, Lavender Bay, NSW 2060

Conference Dinner

When: Wednesday 3rd April 2019

Where: Luna Park, Milsons Point, NSW 2060

List of presentations & demos to date (15.01.2019)

The conference program can also be found on the conference website www.compositesconference.com.au

Navigating the waters of Australian procurement practices

Tony Caristo, Managing Director RPC Technologies

For the past few years, the word “collaboration” has become a term, now indispensable in the lexicon of government and academic messaging as a prerequisite to technical step change and supplying large projects. Whilst shared knowledge, value creation and successful global partnerships are formed from an alignment of commercial interests and mutual goals, the journey is not for the faint hearted. Tony will share his views on the opportunities for supplying large contracts through collaboration and partnerships and the key areas where assistance from government and procurement agencies could exponentially advance Australian industry.

The Omnitanker journey

Dr Daniel Rogers, Managing Director and Dr Luke Djukic, Chief Technical Officer for Omni Tanker.

Manufactured using carbon fibre composites with a seamless interior of polyethylene thermoplastic, the lightweight tanker has a high degree of chemical resistance suitable for a wide range of liquid cargoes. The interior has food grade compatibility and is also approved for the transport of Dangerous Goods including Class 8 corrosive liquids. Daniel and Luke will outline the challenging journey to commercialise a product designed, engineered and made in NSW in offshore markets.

Commercialising the award winning OCIUS Bluebottle – the unique unmanned surface vessel developed for wide area ocean surveillance

Alan Steber, General Manager for Steber International and Robert Dane, Founder of Ocious.

The highly innovative Bluebottle unmanned surface vessel project is a collaboration between Ocious Technology and Steber International with the drones featuring rigid FRP opening sails and hybrid marine power technology. This joint presentation will profile how collaboration can bring a unique product to market.

Building sustainable infrastructure in a corrosive environment with composite technologies

Michael Kemp, General Manager – Engineering, Wagners CFT Manufacturing Pty Ltd.

Michael will present on Wagner’s recent completion of rebuilding the wharf at Pinkenba. A project that included engineering, manufacturing and installing a whole deck made from FRP deck units, topped with concrete reinforced with FRP rebar.

Composite vessels solving storage solutions in the corrosive environments of chemical and mining plants

Dr Lucy Cranitch, Materials Scientist and Director of PATH a technical consultancy for polymers: composites, fibreglass, plastics, rubber, coatings and linings.

Lucy will present on a number of projects including the materials selection for a hot acid process tank made from composites and lined with PVDF, the installation of a large diameter pressure pipeline delivering irrigation water and the repair of a gas cooling tower.

Material choices for purpose built subsea solutions

David Inggall, Founder of DIDesign.

DIDesign is a pioneer of a new generation of subsea inspection and intervention remotely operated underwater vehicles (ROV).

His made to measure mini workhorses are an effective cost reduction strategy and also a safety solution for his oil and gas clients. David will outline how this new exciting horizon is using composites and also carbon fibre-reinforced 3D components.

State-of-the-air vehicle and ground transportation composite development projects

Paul Falzon, General Manager, Advanced Composite Structures Australia

Cost effective repair of composite components

Dr Rik Heslehurst, PhD, CPEng, FIEAust, FRAeS, FSAMPE, Composites Australia (Hon), XTEK Ltd., Canberra ACT.

Dr Rik will outline how a mid-sized company based in Canberra has changed the paradigm of the lengthy and costly solution of sending damaged composite components back to offshore OEM's for repair or replacement. He will demonstrate how the company built a practical repair facility for small air vehicles with a cost-effective budget that in a short period is saving the Australian Government approx. \$500,000 p.a.- with further savings on the horizon. His presentation will also show how costs and repair time were improved from 15-20 weeks to less than 2 weeks. He will also discuss the business model and highlight the importance of recruiting the right people by effectively using the Composites Australia family network.

Industrial composite equipment and professional design support

Michael Leggett & Benjamin Conway, Engineers for Corrosion Technology Australia Pty Ltd.

Michael and Benjamin will present a case study on Corrosion Technology Australia Group, its technical capabilities and an overview of current projects designing, developing and manufacturing advanced composites. They will provide insights into the role of engineering within the industrial composites sector and the symbiosis between experienced and developing engineers. They will also identify strategies for the advancement of industrial composites engineers within Australia and engineering challenges and market developments associated with industrial design within the sector.

Audaciously rethinking functional uses for carbon fibre

Geoff Germon, Founder and Chief Industrial Designer for Talon Technology.

Geoff will discuss how the use of new materials and processes in the manufacture of traditional products will open up opportunities for aesthetically elegant, innovative products with greater functionality. Particularly, he will discuss the logic behind his two recent additions to his considerable portfolio of multi-award winning products – a carbon fibre tap

and eyewear frames – both of which are consumer products with the promise of considerable production volumes.

A European market entry

Mark Pontil, General Manager, Regina Glass Fibre.

Mark will outline how ten years of R&D behind the unique tissue product FireShield® to meet the stringent flame and smoke toxicity standards within highly regulated environments is paying off in unlikely offshore markets. He will provide an overview of the herculean journey to launch a composite product, developed and made in regional Victoria made for all resins and standard composite manufacturing processes with a multitude of end uses into a fragmented European market.

Live demonstration

See a composite part be shot live during the conference using the Alan Harper reusable vacuum membrane technology - a closed moulding process that offers composite practitioners production efficiencies and cost savings.

More details on the demo will be uploaded to the website shortly.



Pre conference workshop

Theme: “Bolted joints for composites – how to make them right”

Delivered by: Dr Rik Heslehurst, CPEng, FIEAust, FRAeS, FSAMPE, Composites Australia (Hon).

Date: Tuesday 2nd April

Time: 1.00pm – 5.00pm.

This half day workshop will review the fundamental failure modes of bolted composite structures and the conditions that cause these failure modes.

The two primary methods of joining composite materials is to adhesively bond them or mechanically fasten (bolt/rivet/pin) them. Because of the heterogeneous, orthotropic and laminated nature of composite structures the bolting of composites has significant limitation in structural design efficiencies and fabrication processes. Poor fabrication processes can further reduce the structural efficiencies of a bolt composite structure. Furthermore, the fabrication processes, loading mechanisms and modes, and environmental conditions will require substantial knockdown factors to be applied to bolted composite structures.

The top 10 issues of bolted composite joints will be summarized and reviewed, along with a general discussion on the key parameters that must be considered when designing and fabricating a bolted composite joint. Delegates will learn which fabrication processes degrade bolted composite joint performance and the fabrication processes that will improve bolted composite joint performance.

Some practical demonstration of the good, the bad and the ugly in bolted composite joints will assist delegates understand bolted composite joints. This Workshop will be followed by the official conference welcome reception from 6.00pm to 8.00pm.

Conference dinner

Luna Park Sydney is a much loved Australian icon on the foreshore of Sydney Harbour with full and uninterrupted views of the Sydney Harbour Bridge and the Sydney Opera House.

Constructed during 1935, Luna Park is one of two amusement parks in the world that are protected by government legislation; several of the buildings on the site are also listed on the New South Wales State Heritage Register. The “Luna Park face” is one of Sydney’s most recognisable and popular icons, which is highly visible from Circular Quay and the Opera House and other key harbour vantage points.

Rides won’t be open, however the fifteen metre wide outdoor waterfront deck area overlooking Sydney Harbour will be. The Sunset Room is one of Sydney’s unassuming vantage points for stunning twilight views across Lavender Bay to Balmain.

