



2021 Participant Workshop

24th - 26th March, 2021
Brisbane, Queensland

BUILDING THE BLUE ECONOMY



Australian Government
Department of Industry, Science,
Energy and Resources

Business
Cooperative Research
Centres Program

Welcome

Welcome to the Blue Economy CRC 2021 Participant Workshop

The Blue Economy CRC 2021 Participant Workshop is being held at the W in Brisbane Queensland from the 24th – 26th March 2021.

With the challenges of COVID-19 and restrictions on travel, the event will be held as a hybrid conference, with the full 3 days live streamed on a dedicated virtual platform, allowing Participants to zoom in from anywhere in the world.

The platform allows for full integration into each session, with real-time Q&A and discussion capabilities.

All delegates have access to the online platform as a means to connect and network with participants both attending the event and joining us virtually.

Our Partners

40 PARTNERS
10 COUNTRIES
1 GOAL

The Blue Economy CRC brings together, for the first time, national and international expertise in aquaculture, marine renewable energy and marine engineering as part of a single, collaborative project. Through integration of the knowledge and expertise across these sectors, this CRC is paving the way for innovative, commercially viable and sustainable offshore developments that will see step changes in marine renewable energy output and seafood production.



A COVID-safe Event

This event is being run according to the Queensland Government COVID Safe Event Checklist. As part of our COVID-safe plan, all attendees **must download the QLD Government Check-in app**.



If you are planning to attend in person you agree to the following conditions of attendance:



Keep 1.5 metres away from each other wherever possible



Avoid physical greetings such as handshaking



Practice good hygiene

Delegates are requested to not attend if they have:

- △ **fever or symptoms of respiratory infection (cough, sore throat, shortness of breath)**
- △ **returned from overseas in the last 14 days**
- △ **been in close contact with a confirmed case of COVID-19 (coronavirus) in the last 14 days**

You also agree to having your contact information provided to public officials from Queensland Health on request.



You're Invited

Participants Networking Event

THE WET DECK

Wednesday 24th March
6.30pm – 8.30pm

6:10 - 6:30 PM	SESSION CHAIR: Dr Nick Elliott , SAC Chair, Blue Economy CRC <ul style="list-style-type: none"> △ Developing a robust collar tie Akshay Krishna Ambika Harikumar, School of Mechanical and Mining, University of Queensland △ Development of DC microgrids for offshore applications Neil Salam, School of Environment and Science, Griffith University △ Development of a mechanical tensioner for wave energy harvesting Yuan Zhen Cai, School of Mechanical and Mining Engineering, University of Queensland 	Great Room 1 & 2
6:30 - 8:30 PM	Networking Event	The Wet Deck

DAY 2: Thursday 25th March 2021

All times are local Brisbane time (AEST)

7:00 - 8:30 AM	Board and Industry Breakfast	Three Blue Ducks
9:00 - 9:25 AM	Registration (Coffee and tea available on arrival)	Great Room 1 & 2 Foyer
9:25 - 9:35 AM	Welcome and Recap of Day One Mr Greg Johannes , Chair of Board, Blue Economy CRC	Great Room 1 & 2
9:40 - 10:40 AM	Floating Ideas (Session 1) (7-8 mins each followed by Q&A) SESSION CHAIR: Dr Brad Evans , Tassal, SAC Member <ul style="list-style-type: none"> △ Development of a wave-powered feed barge, Jonathan Fievez, Carnegie Clean Energy △ Development of "code of practice" for offshore aquaculture vessels in the Australian jurisdiction, Chris Shearer, BMT (v) △ Offshore oysters (scoping study), David Balk, Oysters Tasmania △ Seeding marine innovation in SW WA with a WEC deployment in Albany, Dr Hugh Wolgamot, University of Western Australia △ Innovative Fish Pens for Offshore Aquaculture, Prof Joerg Baumeister, Griffith University △ Offshore energy market identification, Stephanie Thornton, AOEG 	Great Room 1 & 2
10:40 - 11:00 AM	Morning Tea	Great Room 1 & 2 Foyer
11:10 AM - 12:20 PM	THEME DISCUSSION 2: Monitoring, management, and mitigation of risk in offshore environments SESSION CHAIR: Prof Chris Carter , RP2 Program Leader, IMAS-UTAS Speakers [30 mins]: <ul style="list-style-type: none"> △ Current and future assessment molecular biology approaches for monitoring fish and environments, Dr James Wynne, CSIRO △ Fish health status – what we monitor? Dr Colin Johnston, Tassal (v) △ Image recognition technology to mitigate impacts of marine wildlife on aquaculture, Dr Kylie Pitt, Griffith University (p) △ Sensors and monitoring technology, Dr Simon Albert, University of Queensland △ Renewable Energy devices monitoring & mitigation – Marlène Moutel, Sabella [pre-recording] (v) Breakout Rooms [30 mins]: <ol style="list-style-type: none"> 1. Tech focus: Sensors, parameters to measure and platforms including AUVs. What is the most realistic combination for deployment in the next 5 years? (Breakout room leads: Dr Simon Albert, University of Queensland (p) & Dr Damien Guihen, AMC-UTAS (p) and Scott Condie, CSIRO (tbc) (v)) 2. Fish focus: Infectious disease, remote assessment of fish health status, biosecurity. What are the most effective approaches, are these off-shelf or is development needed? (Breakout room leads: Dr James Wynne, CSIRO (p), & Dr Colin Johnston, Tassal (v)) 3. Environmental Reporting: with a focus on existing frameworks and opportunities for new approaches and options (Breakout room leads: Dr Ki-Hoon Lee, Griffith University (GU) (p) and Dr Beth Fulton, CSIRO (v)). 4. Data management / mitigation focus: What are the pathways from data to management and mitigation. How close is AI? (Breakout room leads: Dr Michael Abundo, Ocean Pixel (v) and Dr Leo Dutra, CSIRO (p)) Report Back & Q&A [20 mins]	Great Room 1 & 2

12:20 - 2:30 PM	Lunch & Short Intermission Lunch to be available from 12 PM	Great Room 1 & 2 Foyer
12:00 - 2:30 PM	LIVE STREAMING - WHAT DOES SUCCESS LOOK LIKE FOR AUSTRALIA'S OCEAN STAKEHOLDERS? This is an open session for those who wish to attend over their lunch break. This will be held in the Plenary Room. In 2017 the United Nations declared 2021-2030 The Decade of Ocean Science for Sustainable Development with a vision to deliver the Science We Need for the Ocean We Want. The Ocean Decade provides a platform for Australia's Ocean Stakeholders to unify in ways that move beyond business as usual. Invitation to register for this first Stakeholder meeting to find out more about the Decade, and the ambition that some of our Australian stakeholders have for 2030. You must still register using link: oceandecadeaustralia.org	Studio 1 & Great Room 1 & 2 (from 12:20 PM onwards)
2:30 - 3:30 PM	THEME DISCUSSION 3: Reimagining Infrastructure SESSION CHAIR: Prof Allan Magee , TCOMS (virtual chair) Speakers [60 mins]: Improvements to current infrastructure: <ul style="list-style-type: none"> △ Developing a robust collar tie for fish pens, Dr Michael Heitzmann, University of Queensland △ What the aquaculture industry told us on improvements needed in offshore infrastructure, Dr Rowan Paton, ACS-A △ Mooring tensioner for WECS – MOTWEC, Dr Alexandre Pichard, Carnegie Clean Energy Limited (v) △ Biofouling and waste management and the circular economy: what industry told us and where the opportunities are, Dr Ilje Pikaar, University of Queensland Future infrastructure: <ul style="list-style-type: none"> △ Multipurpose offshore platforms, Dr Nagi Abdussamie, AMC-UTAS △ Safeguarding life, property and the environment: Standards and certification, Jonathan Abrahams, DNV-GL (v) △ Electrical control, Prof Tek Lie, Auckland University of Technology. (v) △ Hydrogen microgrid infrastructure, Craig Dugan, OPTIMAL 	Great Room 1 & 2
3:30 - 4:00 PM	Afternoon Tea W Hotel Location	Great Room 1 & 2 Foyer
4:00 - 4:50 PM	THEME DISCUSSION 3: Reimagining Infrastructure (Continued) Breakout Rooms [30 mins]: <ol style="list-style-type: none"> 1. Fish farming in offshore sites: What are the modifications needed to existing fish pens or consider new designs? What are the changes to operations (feeding, cleaning, monitoring, power supply) in energetic sites and the new infrastructure needed? [Prof Alan Magee, TCOMS (v) and Dr Rowan Paton, ACSA (p) to lead discussion] 2. Co-location of aquaculture and energy farms: Pros and cons, what types of aquaculture and offshore renewable energy to best co-locate? What are the infrastructure needed for co-location? [Dr Nagi Abdussamie, AMC-UTAS (p) / A/Prof Rouzbeh Abbassi, Macquarie University (p) and Dr Mark Hemer, CSIRO (v)] 3. Anti-biofouling solutions: What are the biofouling problems and engineering solutions for infrastructure at offshore sites? Any changes to fish pens and net materials needed? Is it a good idea to clean and collect the biofouling organisms? How can we make use of the collected biofouling organisms? A/Prof Ilje Pikaar (p) / Dr Michael Heitzmann (p) and Dr Maziar Ramezani, AUT (v) to lead discussion. 4. What do the three phases of the hydrogen microgrid infrastructure look like? [Prof Evan Gray, GU (p) and Dr Kosala Gunawardane, AUT (v)] Report Back & Q&A [20 mins]	Great Room 1 & 2



4:55 - 6:00 PM	Floating Ideas (Session 2) (7-8 mins each followed by Q&A) SESSION CHAIR: Dr Nick Elliot , SAC Chair, Blue Economy CRC Speakers: <ul style="list-style-type: none"> △ Taking a fish-centric approach to designing open ocean aquaculture structures, Mark Jarvis, NZ P&FR △ Seaweed: Global status and opportunities, Prof Lindsey White (v) △ Floating artificial reefs, Dr Valeriya Komyakova, IMAS-UTAS (v) △ Hydrogen fuels for vessel propulsion and other maritime applications, Andrew Harris, BMT (v) △ An essential tool to support the design of innovative concepts for fish farms: wave basin, and Experimental exploration of the potential of multi-use platforms combining aquaculture with wind energy, wave energy or tidal energy, Sébastien Gueydon, MAREI, University of Cork △ Floating solar farm demonstration, A/Prof Evan Franklin, UTAS 	Great Room 1 & 2
6:00 - 7:00 PM	Networking Event	Great Room 1 & 2 Foyer

DAY 3: Friday 26th March 2021

All times are local Brisbane time (AEST)

8:00 – 9:00 AM	Closed Meetings of SAC and CAC Meetings	Strategy Room (CAC) Studio 1 (SAC)		
9:00 AM	Morning tea on arrival	Great Room 1 & 2 Foyer		
9:00 – 9:10 AM	Welcome and Recap of Day Two Mr Greg Johannes , Chair of Board, Blue Economy CRC	Great Room 1 & 2		
9:15 – 10:15 AM	THEME DISCUSSION 4: Embracing digital change in the blue economy SESSION CHAIR: Dr Beth Fulton , RP4 Program Leader, CSIRO Speakers [30 mins]: <ul style="list-style-type: none"> △ Platform & connectivity example, Daniel Machado, BMT (v) △ Aquaculture example, Dr Andy Stevens, CSIRO △ A renewable energy example, Dr Michael Abundo, Ocean Pixel (v) △ IMOS' role in the Blue Economy, Michelle Heupel IMOS (v) Breakout Rooms [20 mins] <ol style="list-style-type: none"> 1. Modelling requirements, [Breakout room leads: Dr Emlyn Jones, CSIRO (v) and Prof Evan Gray, GU (p)] 2. What is required of a XRP BE-CRC digital platform, and is there broader opportunity in the national landscape? [Daniel Machado, BMT (v) and Prof Irene Penesis, BECRC (p)] 3. Technologies – gaps and considerations – for “making it work” (technical discussion over what’s required) [Dr Bec Gorton, CSIRO (v) and Dr Remo Cossu, University of Queensland (p)] Report Back & Q&A [10 mins]			
10:20 – 10:40 AM	General Session: Circling back to our Participants – The BE CRC R&D Plan (Followed by Q&A) Professor Irene Penesis , Research Director, Blue Economy CRC	Great Room 1 & 2		
10:45 – 10:55 AM	Wrap up and closing comments Dr John Whittington , CEO, Blue Economy CRC	Great Room 1 & 2		
11:00 AM	LUNCH BOXES PROVIDED			
11:00 AM – 2:00 PM	TECHNICAL TOURS Buses leaving from W Hotel Main Entrance at 11:00 AM returning to W Hotel 2:00 PM Note: all tours will be recorded and available online (Registrations required in advance) <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> TOUR A 1. Engineering Facilities, University of Queensland 2. Hydrogen Facility, Griffith University </td> <td style="width: 50%; vertical-align: top;"> TOUR B 1. Hydrogen Facility, Griffith University 2. Engineering Facilities, University of Queensland </td> </tr> </table>	TOUR A 1. Engineering Facilities, University of Queensland 2. Hydrogen Facility, Griffith University	TOUR B 1. Hydrogen Facility, Griffith University 2. Engineering Facilities, University of Queensland	
TOUR A 1. Engineering Facilities, University of Queensland 2. Hydrogen Facility, Griffith University	TOUR B 1. Hydrogen Facility, Griffith University 2. Engineering Facilities, University of Queensland			

WORKSHOP CLOSE

Note: *Indicates breakout room leads for theme discussions, (p) for in-person table and (v) for virtual room.



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