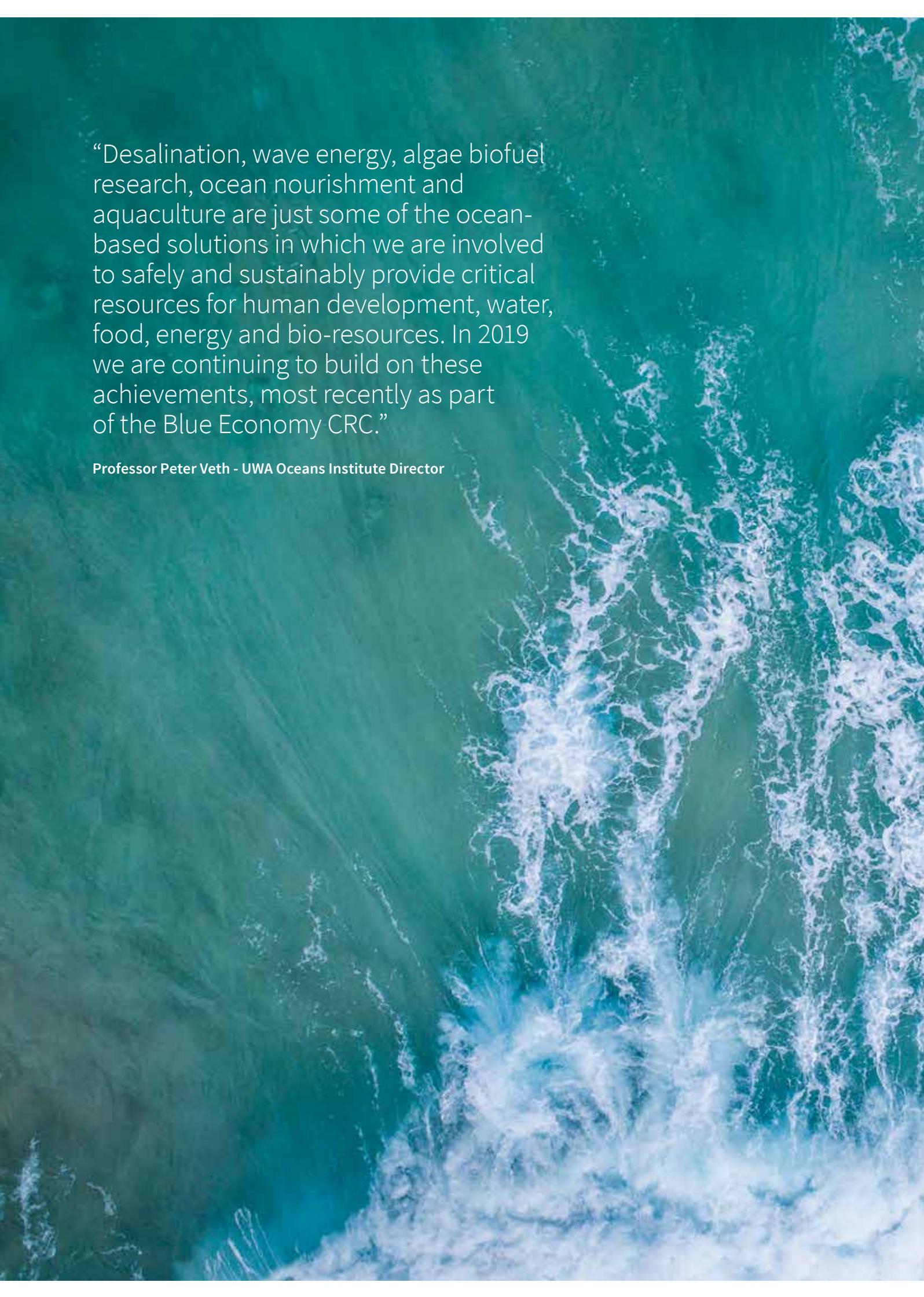




THE UNIVERSITY OF
WESTERN
AUSTRALIA

Oceans Institute

Research Highlights Report 2017/18

An aerial photograph of the ocean, showing a large, turbulent wake of white foam and churning water trailing behind a vessel. The water transitions from a deep teal to a lighter, frothy white as the waves break. The perspective is from directly above, looking down at the churning water.

“Desalination, wave energy, algae biofuel research, ocean nourishment and aquaculture are just some of the ocean-based solutions in which we are involved to safely and sustainably provide critical resources for human development, water, food, energy and bio-resources. In 2019 we are continuing to build on these achievements, most recently as part of the Blue Economy CRC.”

Professor Peter Veth - UWA Oceans Institute Director

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Timeline

2017

JANUARY

UNESCO IOC PPO Conference held at IOMRC, attended by 80 international scientists in marine and climate research.

MARCH

Dr Taryn Foster awarded the 2016 Virginia Chadwick Award. Dr Foster's research focuses on how high-latitude corals in WA will respond to climate change stressors such as warmer waters and ocean acidification.

The OI partnered with the US Consulate General in Perth to screen Our Rising Oceans as part of the Our Oceans film showcase – an initiative between the US Department of State, the Jackson Hole Wildlife Film Festival, DC Environmental Film Festival and Blue Ocean Film Festival.

APRIL

An MOU signed with Stichting Delatares to increase collaboration on a broad range of research topics, in particular related to coastal dynamics, water quality modelling and offshore engineering.

MAY

OI member Professor Jessica Meeuwig nominated for WA Australian of the Year.

JUNE

3200 people step on board the German Research Vessel RV Sonne, when an open day was held whilst the vessel was docked at Fremantle Port.

OI member, former OFFshore Hub Director and former Shell EMI Chair in Offshore Engineering Professor David White elected a Fellow of the Royal Institute of Naval Architects (RINA).

AUGUST

IOMRC Crawley formally opened by the Federal Education and Training Minister, Senator Simon Birmingham, with UWA Vice Chancellor Dawn Freshwater and key executives and VIPs from across UWA and the IOMRC partnership in attendance.

The Honourable Craig Laundy, Assistant Minister for Industry, Innovation and Science and Senator Linda Reynolds visit IOMRC and the IO to hear about the latest research collaborations and view the world class marine research facilities.

Professor Phil Watson appointed the EMI Shell Chair in Offshore Engineering.

Dr Jade Lindley sponsored by the US State Department to join their International Visitors Leadership Program – 2017's theme being Strategic and Economic Issues for the Indian Ocean Region.

SEPTEMBER

After more than 7000km of travel and 11 months in the water, the Challenger Ocean Glider successfully recovered off the Sri Lankan Coast.

OCTOBER

In The Zone, WA's premier forum on questions of regional significance, featuring a range of speakers from academia, government and industry held in Perth. The event focused on the maritime realm: 'In the Zone: The Blue Zone Conference'.

2018

JANUARY

Representatives from the OI attend the Understanding Flooding on Reef-lined Island Coasts Workshop in Honolulu. The workshop was organized by the US Geological Survey, Deltares Institute Netherlands, National Oceanic and Atmospheric Administration (NOAA) and included participants from CSIRO, New Zealand National Institute of Water and Atmosphere (NIWA), The Pacific Community Fiji, University of San Diego, University of Cantabria, IHE Delft Institute for Water Education, Stanford University and University of Hawaii.

OI members Chari Pattiaratchi and Ems Wijeratne team up with University of Tasmania's Roger Proctor to develop a map that easily explains where the ocean currents flow around Australia.

The OI's Anna Cresswell features in the Western Australian Museum's Ningaloo Dome Experience.

FEBRUARY

Marine Megafauna Movement Analytical Program (MMMAP) Forum 2018 held in the IOMRC Auditorium, showcasing key research in the marine megafauna movement and providing networking opportunities to generate future collaborations. OI member Dr Ana Sequeira from the Australian Institute of Marine Science, was among the speakers.

Book launch for Oceans Safety, Marine Health and the Blue Economy, edited by Erika Techera and Gundula Winters.

MARCH

The OI participates in the Australian Oil & Gas Exhibition and Conference.

OI and ARC Centre of Excellence for Coral Reef Studies (Coral CoE) alumni Renee Gruber awarded a 2017 Virginia Chadwick Award for her publication in Limnology and Oceanography.

MAY

Dr Fraser Bransby appointed the Fugro Chair in Geotechnics.

Dr Verena Schoepf joins other researchers to from UWA Research for an evening of science at Rosie O'Grady in Northbridge, with her topic – Coral reefs in WA.

NOVEMBER

OI PhD student Todd Bond takes out the prize for best student talk at the Marine Alliance for Science and Technology (MASTS) annual science meeting in Scotland.

DECEMBER

Perth Fish, a free book resource for primary and secondary school students launched by fish ecologists Dr Dianne McLean and Research Assistant Michael Taylor.

Image: Joan Costa

Executive Summary



The UWA Oceans Institute is now in its ninth year and entering a new phase of development and growth. The Institute is unique in bringing together research staff and students from across a range of disciplines, all focused on providing solutions to the many challenges facing the world's oceans.

Desalination, wave energy, algae biofuel research, ocean nourishment and aquaculture are just some of the ocean-based solutions in which we are involved to safely and sustainably provide critical resources for human development, water, food, energy and bio-resources. In 2019 we are continuing to build on these achievements, most recently as part of the Blue Economy CRC.

To assist in this work, we have welcomed a new External Advisory Board: Jock Clough with Dr Larry Madin, Dr Erica Smyth AC, Dr Luke Smith, Dr Carmen Lawrence and Professor John Chandler bring with them a wealth of industry, business and policy experience, ably backing our cross-faculty leadership and business teams in providing expert direction and high level advice on key research themes.

In 2019, the Oceans Institute is driving initiatives in two new and important focus areas, ocean plastics and seascapes, the latter encompassing integrated cultural studies of marine catchments. The latter is something that, as a marine archaeologist with a significant marine focus, I have been involved in first-hand for over 30 years, including working on the marine heritage of the Aru Islands, Timor Leste, Torres Strait, Dampier Archipelago and collaboratively on some of the Kimberley archipelagos. My work across northern Australia and the Western Desert has been carried out closely with Traditional Owners recording occupational histories, ethno-economic, dietary and settlement behaviours.

My ongoing work on the Montebello and Barrow Islands with a wide range of ecologists, dating and marine scientists, established the earliest evidence for coastal occupation of Aboriginal people at 50,000 years ago and the systematic use of a broad suite of maritime resources through periods of significantly fluctuating sea-levels and changing climate. The integrated human-marine perspectives can provide valuable insights into how we might manage seascapes into the future. It's this mix of social sciences, including legal perspectives, integrated with the Institute's core disciplines of marine biology and ecology, physical oceanography and ocean engineering that I believe makes us unique.

And so it is fitting that in its 2030 Vision and Strategy UWA has named oceans and the marine environment as one of its seven Grand Challenges – key issues the University believes are crucial to the future of the planet. For the Institute, it means we will continue

to pursue large projects that utilise the full breadth of our inter-disciplinary skills, working closely with industry, government and community partners and constantly extending our reach.

Assisting with this is our role as a key player in the Southern Hemisphere's most ambitious interdisciplinary marine partnership, the Indian Ocean Marine Research Centre (IOMRC) – a dynamic and high-level research partnership bringing together CSIRO, the Australian Institute of Marine Science (AIMS) and the Western Australian Department of Fisheries, along with our own researchers and infrastructure. It includes the refurbished Watermans Bay Marine Centre, the Indian Ocean's first seawater facility for broad marine research.

UWA recognises the potential for ocean research to deliver significant socioeconomic benefits locally and globally. Through the Oceans Institute, the University is responding to the national imperative, as articulated by the Australian Research Council, that university research shouldn't only be internationally acknowledged through peer review, but should also have a tangible positive impact. It's something we plan on delivering for many years to come.

And finally, I wish to express my gratitude for the outstanding contributions made by Professor Erika Techera and Professor Shaun Collin to the UWA Oceans Institute between 2017 and 2018 - a sentiment I know is echoed by other staff and members.

Professor Peter Veth
Director, UWA Oceans Institute

2018



The year 2018 saw both consolidation and change at the Oceans Institute.

The 2018 finalisation and publication of the Oceans Institute 'Research Strategy 2018-2022' document provided a framework for the future of the OI with the clear delineation of five research themes: Coasts and communities; Energy from the Oceans; Fisheries, food security and aquaculture; Marine conservation, ecology and climate change; and Maritime security, safety and defence.

The fundamental importance of OI's global perspective continued, with numerous activities underlining the importance of the Institute to Indian Ocean rim countries and those countries to our north. Our high level of engagement shows that OI members are open for research and teaching collaborations across the world.

The OI hosted a number of visitors and delegations in the first quarter including the Hon Mr Vasantha Senanayake, Sri Lankan State Minister for Foreign Affairs, and Mr Josh Jalagge, Honorary Consul (WA jurisdiction) of the Democratic Socialist Republic of Sri Lanka. Discussions centred around border security, bio-security, environmental sustainability, monitoring of coastlines and remote monitoring of illegal activities.

Nicole Jones coordinated a group workshop between the University of California and Scripps Institution of Oceanography at an Ocean Sciences Meeting in Portland, focused on future partnering with UWA on a range of oceans-related research and teaching activities. As a result of this initiative, the OI now has a MoU with Scripps that will form the platform for future collaborations.

The ecological sustainability and conservation of our oceans and their biota remains at the forefront of OI research activities, with OI running a workshop on the importance of oceans in carbon budgets and OI members producing significant advances in different environments ranging from tropical coral reefs to temperate kelp forests.

The Indian Ocean Conference on Blue Carbon was held in the IOMRC Auditorium in March.

Less positively, but equally importantly, research published in *BioScience* and carried out by Thomas Wernberg and Karen Filbee-Dexter for the Norwegian Institute for Water Research found that kelp forests around the world are being degraded into flat seascapes carpeted by short turf-algae, with the WA coastline being one of the worst affected areas.

Thomas Wernberg and another team of international and Australian colleagues also published a study in *Diversity and Distributions* which found that even under the most optimistic carbon emission scenarios, ocean warming is likely to cause substantial loss of critical habitat-forming seaweeds on Australia's Great Southern Reef by 2100.

Marine diverse megafauna feature significantly among OI members' research outputs, attracting ongoing public interest. The OI's role in public engagement in science was also exemplified by a wide range of activities, including talks to the public, radio and TV appearances, and the production of a free book about our local fish aimed at school children.

As in previous years, the OI was fortunate in 2018 to benefit from support and philanthropy. In particular, the Robson and Robertson awards from the Jock Clough Marine Foundation once again provided highly beneficial research funds to support several OI PhD students.

The year 2018 also marks my final year at UWA. It has been a great privilege to hold the role of Acting Director this year and be able to contribute to the construction and occupation of a wonderful facility dedicated to conserving our oceans over the last nine years. I would like to convey my sincere thanks to the wonderfully collegiate OI team that I was able to lead this year, especially Glenda Nyhuis, Robert Pemberton, Julian Partridge, Amanda Flood and Angela Wilson. I wish the incoming Director, Professor Peter Veth, and the new OI Team all the best for the future.

Professor Shaun Collin

2017



I was honoured to have led the UWA Oceans Institute in 2017 during a period the Institute continued to grow and strengthen.

The year started with our move into the new Indian Ocean Marine Research Centre (IOMRC) building on the Crawley campus. Completed in 2016, the building quickly became home to critical research infrastructure and over 300 researchers from UWA, CSIRO and AIMS.

Combined with the Watermans Bay facility, it is the most ambitious and prestigious marine research facility in the southern hemisphere and quickly catalysed collaborative engagement across the partnership, as well as between disciplines within the diverse UWA membership.

2017 also saw the OI develop a new Strategic Plan and Research Strategy, with key research themes including energy, fisheries and food, security and safety, conservation, climate change, coasts and communities. Importantly, education and training, as well as student experience, were also a focus.

The Institute is a multidisciplinary research body and during 2017 we demonstrated how this works and why it is important.

For example, the preparation of the Cooperative Research Centre (CRC) for Decommissioning Offshore Infrastructure bid brought together scientists, engineers, lawyers, economists and managers all focusing on securing environmentally safe and sustainable outcomes as offshore infrastructure reaches its end of life.

Although ultimately not selected to go forward, the CRC DOI bid demonstrated not only the strengths of the OI but the ability to apply our expertise and engage with industry on a pressing current concern and also allowed us to build on our skills and expertise for these sorts of large scale projects, paving the way for future bids.

Similarly, the 'Marines Extremes' workshop in December 2017, brought together scholars focused on extreme events, impacts, environments and behaviours related to our oceans.

The outcomes not only included new understanding and collaborations but also a book as a tangible output of the workshop and research theme: *Marine Extremes: Ocean safety, marine health and the blue economy* (Routledge, 2019).

The workshop was hosted under the banner of a new Matariki Network of Universities theme on 'Oceans and the Blue Economy' involving colleagues from the US, NZ and Europe, as well as UWA academics and students.

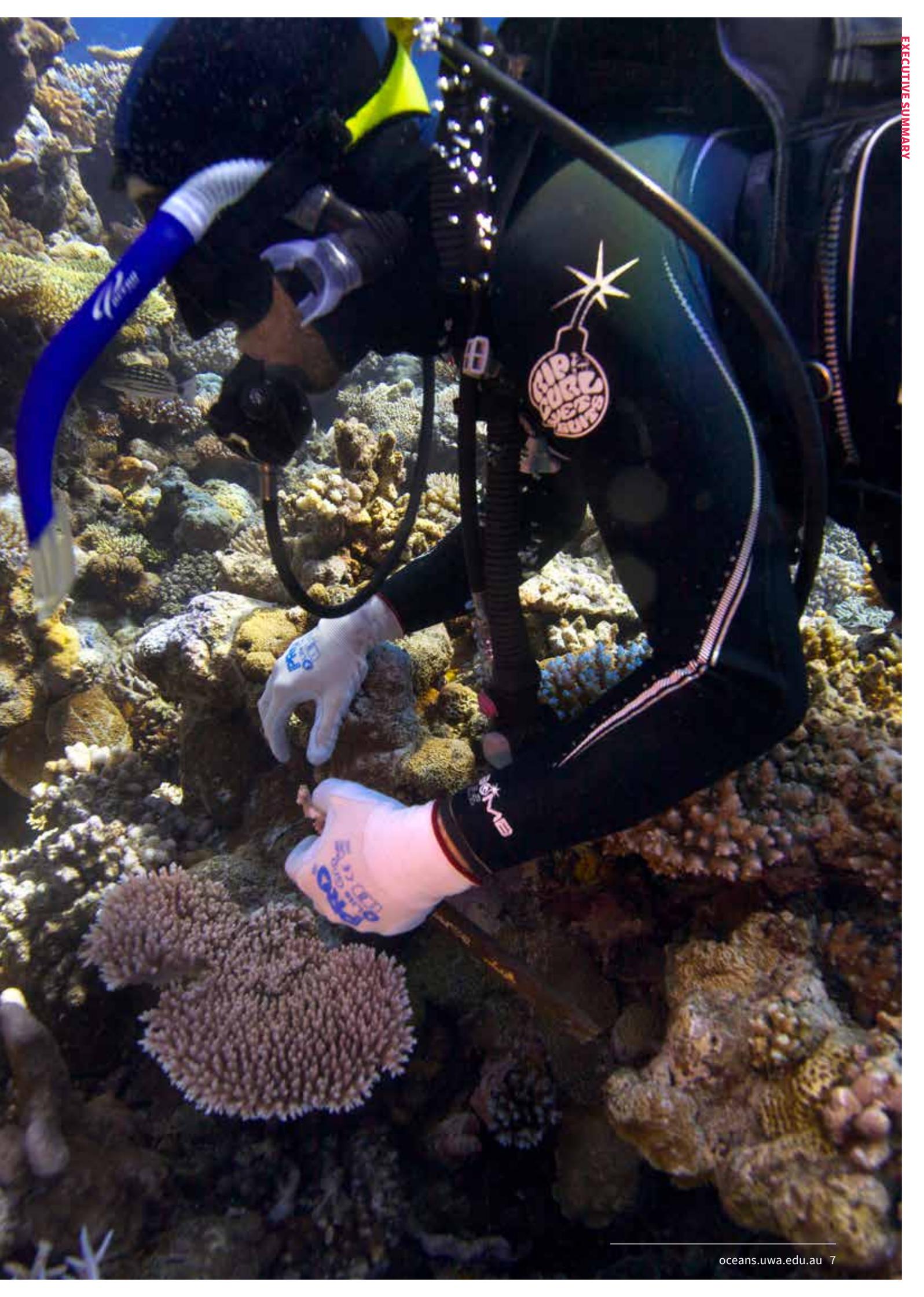
Our academic outreach beyond Australia was significant in 2017, illustrated by events such as the DFAT-funded short course in Mauritius and new research collaborations with Deltares in the Netherlands.

The OI recognises the importance of engaging with the broader community. In 2017 we continued to work with local schools, for example, and together with the UWA Institute of Advanced Studies, we established a new public lecture series: 'All at Sea'.

We would not have achieved all that we did during 2017 without strong support from within and beyond the University. Mr Jock Clough has been a particularly significant supporter of the OI from the start and during 2017 the Jock Clough Marine Foundation funded a new post-doctoral scholarship and PhD fund to assist students.

Named in honour of Professor Alan Robson AO CitWA and Alistar Robertson, who played a fundamental role in creating the UWA Oceans Institute, the 'Robson and Robertson' awards support early career researchers working on conservation, genetics and aquaculture projects.

Professor Erika Techera



Highlights



New Chairs in Offshore Engineering and Geotechnics

The announcement of two new Chairs in the oceans space in 2017 and 2018 has brought a wealth of new industry knowledge to UWA.

In 2017 OI member, Professor Phil Watson was appointed Shell Chair in Offshore Engineering, and leading geotechnical engineer Dr Fraser Bransby the Fugro Chair in Geotechnics the following year.



Shell Chair in Offshore Engineering, Professor Phil Watson

Shell Chair in Offshore Engineering

Professor Watson completed his PhD at UWA in the 1990's and has held a number of high-profile roles in the consulting sector since that time. He was a director of Advanced Geomechanics, before taking joint roles in Fugro as Managing Director of Fugro AG and Global Director of GeoConsulting – positions where he helped create research-inspired engineering solutions that have been applied across the oil and gas industry in Australia and globally.

The Shell Chair in Offshore Engineering was created to advance research and industry collaboration in WA's offshore industry with Shell committing to a five-year extension in 2017. The Chair



Fugro Chair in Geotechnics, Professor Fraser Bransby

funds a number of academic and post-doctoral research positions, and current activities include significant interaction with Shell teams across the world.

Professor Watson is also Director of the Offshore Floating Facilities Research Hub (www.offshorehub.edu.au), a major research project at UWA funded by Shell in partnership with Woodside, Lloyds and Bureau Veritas, alongside the Australian Research Council.

Fugro Chair in Geotechnics

Professor Bransby has worked across academia and industry, applying his geotechnical expertise to meet the scientific and engineering challenges of the offshore engineering industry.

He obtained his PhD in soil mechanics from the University of Cambridge and spent the next 15 years of his career undertaking university geotechnical teaching and research on a wide range of topics and collaborating closely with the offshore industry.

In 2010 Professor Bransby moved to industry full-time where he led the technical and innovation aspects of a large number of projects both offshore Australia and globally, often in collaboration with global Fugro teams. This gave him an excellent starting point when taking up the Fugro Chair role.

The Fugro Chair in Geotechnics was established in 2014 to mutually benefit UWA and Fugro by targeting research to industry-relevant problems in geotechnical engineering and site characterisation, thereby creating impact. The Chair also provides funding for PhD scholarships to aid in the growth of high quality graduates in offshore geotechnics and engineering, with selected students having taken up the opportunity to work with Fugro.

RV Sonne expedition

During an early morning in June 2017, a group of 33 scientists and technicians from 10 countries boarded one of the world's most high-tech, deep-sea research vessels, the RV Sonne. Representing the SO258 Leg 1 Scientific Party, the group prepared to set sail on a research trip which would take them from Fremantle to Sri Lanka over five weeks.

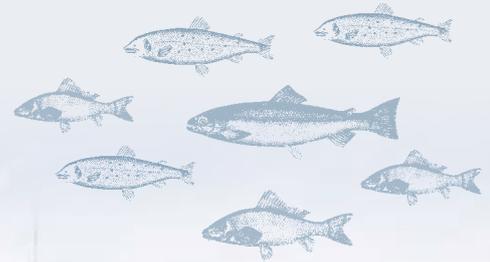
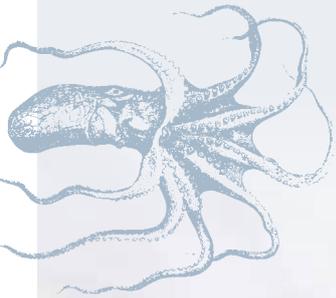
Two of the principal investigators for the expedition, Professor Shaun Collin and Associate Professor Julian Partridge from the OI, were on board to assist the research program INGON.

A collaboration between the Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI) and the GEOMAR Helmholtz Centre for Ocean Research Kiel, the key aim for INGON was to investigate magmatic and tectonic processes that trigger the break-up of continents and the formation of ocean basins.

This is not only an important topic in basic research contributing to better understanding of the Earth's systems, but provides important data on the relations between magmatic and volcanic activity and their influence on environment, climate, and ecological systems.

In addition to the geological investigations, important biological studies were also carried out with the focus on deep sea fish, squid and shrimp to see bioluminescent light in the darkness of 500-1500 depth. Professor Shaun Collin, who led the biological studies, was overwhelmed with the deep sea creatures.

On arrival in Colombo the expedition was voted a huge success, with the highlights including venturing across seamounts previously unexplored, as well as the collection of over 20 volcanic rocks and more than 2000 biological specimens.



Open Day success

While it was docked in Fremantle Port, the RV Sonne held an open day with members of the public invited to step aboard and have a look around the research laboratories and other parts of the ship.

Exhibits hosted by international scientists, including those from Germany and Australia who were about to take to sea on the ship, allowed the public to discuss current research topics directly with the researchers involved.

The event was a huge success with more than 3,200 people stepping aboard the cutting-edge vessel, which plays a crucial role for marine science and was in Australian waters taking samples from the ocean floor.

The OI's Professor Shaun Collin and Associate Professor Julian Partridge were among those on board showing off what the RV Sonne had to offer, and discussing their fascination with deep sea animals.

With eight laboratories on board, around 40-45 scientists can live and work on board the RV Sonne during expeditions across the world's oceans and seas.

Tied down. Associate Professor Julian Partridge and PhD student Anna-Lee Jessop made sure everything was ship shape (and tied down!) in their laboratory aboard the RV Sonne, which was all set up for electrophysiology work



Creatures from the deep. The deep sea amphipod, Phronima, in the protective barrel that it makes from other deep sea animals; and free living. This voracious predator is only a cm or two in size but has a range of grasping claws and huge, unique eyes to search for prey. This is one of the genera of animals that OI PhD student Annie Jessop and Associate Professor Julian Partridge studied on the RV Sonne expedition using electrophysiology and later back at UWA with colleagues Drs Jan Hemmi and Zahra Bagheri using micro Computer Tomography (microCT)

©Julian Partridge and Milly Sharkey



Photo credit: Associate Professor Julian Partridge

Robson and Robertson awards

Protecting what we have is the key

When Matthew Fraser moved to Perth from Glasgow in 2006, he couldn't have imagined a trip to the Great Barrier Reef would set the direction for a career as a marine scientist.

It's fair to say it didn't take the Glaswegian long to be captivated by our coastline and everything the WA lifestyle has to offer. That passion for our diverse and unique marine ecosystems led Matthew to UWA to complete a degree in marine science. Specialising in benthic ecology, he's now developing innovative solutions to improve the conservation and management of our coastal ecosystems.

Matthew credits a lot of his success to working within UWA's Oceans Institute, which he says has opened doors to himself and a lot of other researchers. "Being part of the OI has meant

researchers from a variety of disciplines can have exposure to many other areas such as law and policy," he said.

"We can collaborate with researchers who have skills we don't otherwise have access to every day and we can build on these relationships."

In 2017 Matthew was given an even greater opportunity to pursue his marine research after he was awarded the inaugural postdoctoral fellowship of the Robson and Robertson Awards, made possible through a generous donation from the Jock Clough Marine Foundation.

The Awards honour Professor Alan Robson AO CitWA and Emeritus Professor Alistar Robertson for their integral role in establishing the OI and they come with a very clear goal – to encourage and support young researchers in the field of marine science.

The five-year fellowship is designed to support early career researchers in pioneering global research by addressing ocean challenges in conservation, genetics and aquaculture.

The awards are also designed to provide opportunities for other outstanding young scholars to undertake exciting and innovative oceans research (see breakout box).

By studying critical marine habitats, Matthew is aiming to apply his research outcomes and influence government policies relating to the management of marine ecosystems.

By year end 2018, 23 young and talented marine students had been chosen to receive between \$1,000 and \$10,000 each from the Robson and Robertson Awards Scheme to support their doctorate research: Daniel Van Hees, Stephanie Venables, Matthew Navarro, Chenae Tuckett, Maharani Yulisti, Jonathan Mitchell, Tamara Schlosser, Joseph Turner, Nguyen Chi, Lauren Peel, Anita Giraldo, Sahira Bell, Charlotte Birkmanis, Todd Bond, Nestor Bosch, Nery Contti Neto, Michael Kelly, Belinda Martin, Yannick Mulders, Albert Pessarrodna Silvestre, Sofie Vraken, Salvador Zarco Perello and Andrew Zulberti.



Dr Matthew Fraser doing what he loves best



Batavia mysteries unfold with discovery of mass grave

In November 2017, an international team of archaeologists, including researchers from UWA and the Western Australian Museum, discovered a new communal grave in the Abrolhos Islands, the result of deaths after the 1629 shipwreck of the Dutch East India company ship, Batavia.

UWA Professor Alistair Paterson, who led the international collaboration of researchers with Dr Jeremy Green from the Western Australian Museum, said the discovery of the new grave unearthed vital clues about what happened on Beacon Island almost 400 years ago.

The Batavia was wrecked in 1629 on the Morning Reef off the Western Australian coast. Out of more than 300 people on board the Batavia, there were 282 survivors. Most of these survivors ended up on Beacon Island, a small coral island described as 'Batavia's Graveyard' by the Dutch. In the following months, a mutiny unfolded, leading to the further deaths of around 115 people, many of whom were murdered by the mutineers.

The communal grave discovered on Beacon Island was made up of five sets of human remains along with artefacts, and follows earlier findings according to UWA Associate Professor Daniel Franklin.

"At the time it was realised there were a further two individuals buried beneath, who were duly uncovered in a shorter expedition in February 2018," Associate Professor Franklin said.



An interpretation of the mutiny taken from a plate from Pelsaert, F. and J. v. Vliet (1647)

"A total of 12 individuals have been discovered in a central part of Beacon Island in the past three years during our research project, providing valuable new information about the events following the wreck of the Batavia."

Dr Jeremy Green, Head of Maritime Archaeology at the Western Australian Museum, has been investigating the Batavia and the story of its survivors since the wreck's discovery more than 50 years ago.

He emphasises there are still very important discoveries to be made in relation to the remarkable human story behind one of Australia's earliest shipwrecks.

The research is funded by the Australian Research Council 'Shipwrecks of the Roaring Forties' project, and is being undertaken in partnership with the WA Museum, Vrije Universiteit Amsterdam, Curtin University, Flinders University, British Museum, Embassy of the Kingdom of the Netherlands in Australia, Cultural Heritage Agency of the Netherlands, National Archives of the Netherlands, Prospero Productions, The Australasian Institute for Maritime Archaeology and Tasmania Parks & Wildlife Service. It is also supported by a Federal Government 'Protecting National Heritage Sites-Batavia' grant.

The ARC Industrial Transformation Research Hub for Offshore Floating Facilities at UWA

It was all systems go for the Industrial Transformation Research Hub for Offshore Floating Facilities (OFFshore ITRH) during 2017 and 2018 as the five cutting-edge projects got underway.

Introduction

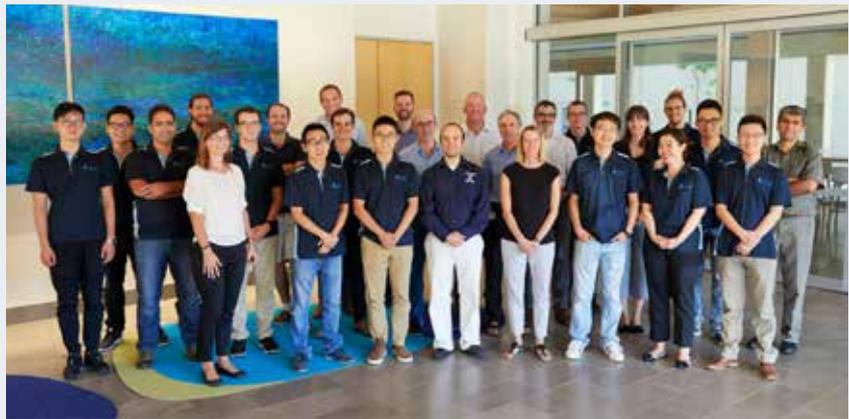
The world of offshore infrastructure has changed. With the move to remote locations and deeper water sites, operators are looking at longer pipelines, increased subsea infrastructure, and larger floating facilities on an ever increasing scale. The Shell Prelude FLNG vessel on the North West Shelf (NWS) of Western Australia is a good example of this shift and hence the need to focus on emerging engineering challenges associated with this change.

About

The OFFshore ITRH is a multi-disciplinary research group jointly funded by industry and the Australian Research Council which was established to address some of these key challenges. It was launched in Q2 2016 with an aim to tackle the critical engineering challenges for the next generation of offshore oil and gas projects by creating novel designs, new technologies and new operating procedures in a collaborative manner. The clear focus of the OFFshore ITRH is on making an impact rather than just creating output.

Structure

The OFFshore ITRH is led by Shell Chair Professor Phil Watson who works with a team of over 40 academic staff and PhD students principally based in the Indian Ocean Marine Research Centre



Collaboration! The ARC Industrial Transformation Research Hub for Offshore Floating Facilities (OFFshore ITRH) team

at UWA. This team brings a wealth of technical experience to the activities of the OFFshore ITRH, and are integrated within the larger ocean science and engineering community at UWA.

Research

The OFFshore ITRH involves five interlinked multi-disciplinary projects in the areas of ocean forecasting, vessel motion and offloading, riser and mooring design, novel anchors and subsea foundations, and data analytics for response prediction and facility longevity. Each project team is working to develop new technologies for the design of safe and efficient offshore projects.

The research program involves a blend of physical and numerical modelling supported by fieldwork and analysis of observations from existing facilities (see opposite page for more details).

Partners and Collaborators

The OFFshore ITRH industry partners are Shell, Woodside Energy, Bureau Veritas and Lloyds Register. Each partner organisation is actively involved in shaping the research direction of each project stream, committed to driving the technology transfer within their company, and assisting with the mentorship of both researchers and PhD students.

Our university partners include Western Sydney University and the University of Southampton. Broader collaborations have been formed with The Alan Turing Institute, BP and NGI, with others being explored. This draws together knowledge and skills which adds significant value to the OFFshore ITRH research.

Capabilities

The OFFshore ITRH is hosted at UWA by the Oceans Graduate School. The Offshore ITRH is expanding UWA's existing world-leading facilities in order to deliver successful outcomes for the wide-ranging research program. These facilities include the National Geotechnical Centrifuge Facility (NGCF), UWA's unique O-tube cyclone simulation flume facilities, a newly refurbished 50m long wave flume, ocean data collection and analysis equipment, numerical modelling facilities, as well as the Woodside FutureLab OceanWorks.



“The OFFshore Hub provides a unique research environment with global recognition, demonstrating the value of accessible domain expertise, industry collaboration, and innovation through cross discipline integration.”

Paul Gardner
Industry Partner, Shell



“Two years in, the Offshore Hub is really hitting its stride. Our collaboration with UWA has produced exciting innovations that have yielded significant value for our business, and for the other industry partners”

Jan Flynn
Industry Partner, Woodside



Project One: Metrocean hazards from solitons

Quantifying soliton hazards on the North West Shelf by using high resolution field observations to validate numerical models. Other aims include assessing the spatial variability of solitons and tidally-forced flow, and their impact on subsea infrastructure and operations.



Project Two: Wave-structure interaction

Using world class numerical modelling, experimental testing and full scale measurements for the analysis of complex wave-structure interactions to inform design and improve the efficiency of floating facility operations.



Project Three: Reliable moorings and risers

Developing new design tools to reduce design uncertainty and increase the reliability of steel catenary risers, water intake risers, drilling risers and mooring lines.



Project Four: Novel anchors and subsea foundation systems

Developing low-cost, low-risk subsea anchors and foundation solutions which benefit from the consideration of whole-life behaviour.



Project Five: Floating facility data analytics for condition / longevity monitoring

Applying engineering statistics and modern data analytics to create ready to use tools which enhance the facility whole-life performance across projects one to four.

Image: Woodside



A story of Sammy, sharks, a blue planet and green seas

Her work with tiger sharks led an OI PhD student to working with her idol in 2017 and she hasn't looked back since.

Some people are scared of sharks but for Australia Institute of Marine Science and former PhD student Sammy Andrzejczek, they are beyond fascinating.

Growing up snorkelling and surfing in the pristine coastal waters of WA, Sammy knew from an early age she was destined to be a marine biologist. But it was while completing her bachelor's degree in Queensland, that Sammy developed a love of all things sharks.

Her honours thesis on whale sharks further cemented that fascination and passion for field work. In 2015, Sammy began her PhD at UWA, examining the patterns and drivers of vertical movements in sharks.

In April 2017 this work continued with what Sammy described as one of her most exciting adventures to date when she worked with BBC Earth's Blue Planet II team on location in Shark Bay, tagging sharks for the 'Green Seas' episode.

She explains that as part of the episode a BBC crew decided to head out to film "the vast seagrass meadows" in Shark Bay.

"Firstly from an aerial perspective and secondly, they were interested in seeing the meadows from the perspective of their largest predator, the tiger shark, and it was for that reason I was contacted," she said. "As Shark Bay in WA has some of the biggest seagrass meadows in the world and a healthy population of tiger sharks, it was the perfect place to attempt to get these shots.

"The goal was to tag a tiger shark in order to record footage and information as it hunted in the seagrass meadows. It was a win-win situation! It was an opportunity I couldn't miss. David Attenborough has always been my idol, and to pass up the chance to help out in a documentary he was narrating would be passing up the chance to live some of my earliest career dreams."

Sammy reports the first five days went by without the crew – consisting of Shark Bay local and leader of the Shark Ark Project Leon, cameraman Shayne, indigenous skipper Nick, drone cameraman Dan and BBC producer Kathryn Jeffs – seeing a single shark.

"I began to lose hope early on that we would even see a tiger shark, let alone tag one," Sammy said. "Despite this we were still seeing a lot of other cool marine life: countless dolphins, dugongs, turtles, rays and other shark species. On one memorable day we saw a fever of seven cowtail rays cruising in a line along the shore."

On the sixth day the team got lucky, tagging "a beautiful, iridescent, roughly 4m female tiger shark", with the entire experience one Sammy says she will never forget.

"I gained a lot of confidence during this trip about my own abilities in directing people, which would come in very useful for my own tagging trip at Ningaloo a month later," she said. "Grabbing this opportunity by the horns turned out to be a decision which led to me ticking off some major boxes from my career checklist, as well as fulfilling some of my lifelong dreams."



Tagging Tiger sharks in Ningaloo

Later in 2017, a successful crowdfunding project enabled Sammy (pictured right) to spend a month in Ningaloo tagging tiger sharks as part of her thesis.

Supervised by the OI's Professor Chari Pattiaratchi, along with Dr Adrian Gleiss from Murdoch University and AIMS and OI adjunct Dr Mark Meekan, the research expedition deployed the latest generation of tagging technology to understand why Tiger sharks move up and down in the water.

Tiger sharks are known to continuously bounce dive through the water column; however, whether this is for hunting, thermoregulation, navigation or energy conservation remains unknown to scientists. On the path to helping solve this mystery, Sammy tagged 26 Tiger sharks and collected numerous hours of video footage and data.

"Tiger sharks are among the strangest-behaving sharks in our oceans; they feed on everything from turtles to car tires, and continuously dive up and down," Sammy said.



"At Ningaloo Reef they are top predators, and regulate the structure of ecosystems through top-down effects in the food chain. Once we have a better understanding of their movements, we can help preserve the species and better understand the Ningaloo Reef system as a whole."

The development of advanced biologging tags with video cameras allows researchers to get a close up and remote view of the sharks' behaviour. Understand their hunting and movement strategies will help scientists effectively manage Tiger shark populations and understand ecosystem dynamics.

Tiger sharks are top predators in tropical and warm temperate ecosystems. Studying the patterns and drivers of their vertical movements will enable researchers to help predict how tiger shark movements may fluctuate with a changing climate.

Read more about Sammy's shark adventures at sammyshark.wordpress.com

Whale sharks don't like to venture too far from home

Every year in March, juvenile male whale sharks arrive at Ningaloo Reef, WA, supporting a thriving eco-tourism industry. But where do they go in July once they leave this meeting site?

The OI's PhD researcher Sammy Andrzejacek was among a team of researchers investigating where male juvenile sharks mysteriously disappear to. The joint research, conducted by the OI and the Australian Institute of Marine Science, involved a large-scale photo-identification study to assess the seasonal habits of whale sharks in the tropics.

The study, published in *Royal Society Open Science*, suggests they actually don't go far at all. By comparing identification photos of whale sharks in a collaborative study across the Indian Ocean, the analysis determined that juvenile males appear to return to the same sites year after year.

Whale sharks form aggregations off tropical coasts around the world due to the seasonal pulses in the abundance of their food. In the Indian Ocean, these occur at Ningaloo Reef as well in the Maldives, off the coast of Mozambique, and in the Seychelles.

From the comparison, the team was able to identify about 1000 individual whale sharks, of which 35 per cent were seen at the same site in more than one year, and none of which were found to move across the Indian Ocean. Previous studies up to now have suggested that sharks in these different aggregations from one population, implying that animals are moving between these sites. However, no direct evidence for these movements exists.

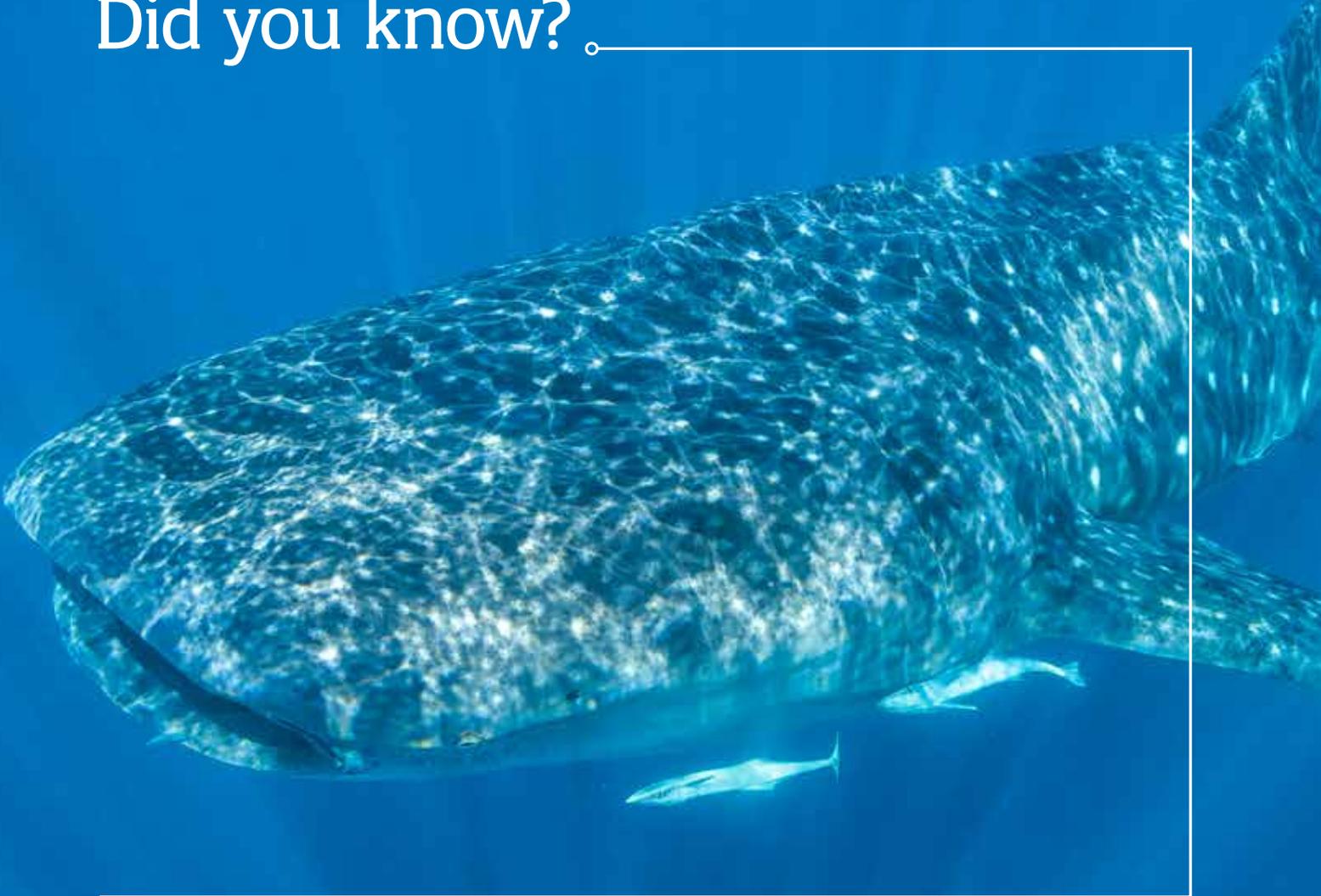
Only one shark was tracked between Mozambique and the Seychelles, suggesting that regional links do occur; however, on a larger scale, populations appear to be isolated and distinct. In comparison, females and adult male whale sharks were rarely spotted at these sites, so it was prepositioned that they aren't homebodies like the young males.

Sammy said there is still more research needed to improve our understanding of the regional movements of these animals.

"A computer simulation analysis study of our data indicated we need to increase the number of study sites and photos taken to get an estimate of their migration pattern at larger scales," she said.



Did you know? ○



○
Whale sharks are the largest fish in the sea reaching sizes of more than 12 metres!

○
A whale shark's mouth can be up to 1.5m wide.

○
Whale sharks have around 3000 tiny teeth less than 6mm long. However, being filter feeders, they don't use their teeth to eat.

Postdoctoral researchers put scholarships to great use for our oceans

In 2017, four postdoctoral scholarships were awarded with the support of the Australian Institute of Marine Science (AIMS) and one with the support of the CSIRO, all leading to a better understanding of the marine environment.



Marie-Lise Schlappy

A research associate at UWA and AIMS, the focus of Dr Marie-Lise Schlappy's work is on the biodiversity of marine sessile invertebrate assemblages on

and around anthropogenic structures (offshore wind, wave and tide), oil and gas infrastructure.

In the past, Marie-Lise has studied the life-history characteristics of small gobies, the value of detritus as a food item to territorial damselfish, and sponges and their associated microbes.

With an interest in marine citizen science, Marie-Lise has worked for citizen science NGOs in the Philippines and Australia and has been on the science advisory board of Reef Check Australia for several years.

She is currently assessing the biodiversity on and around oil and gas infrastructure (oil platforms and pipelines) to determine whether their ecological value would warrant making a case for keeping them underwater at the end of their commercial life. As part of this, she is using remotely operated vehicle (ROV) imagery provided by industry partners and carrying out visual and semi-automated analyses of the marine sessile invertebrates (such as coral, sponges and mussels) on the infrastructure to compare them to those in nearby natural communities.



Andrew Pomeroy

A coastal oceanographer and engineer whose research is at the interface of engineering, coastal oceanography,

morphology and bio-physical processes, Andrew seeks to understand and draw inspiration from the marine environment to find new solutions to a wide range of coastal problems.

Andrew commenced as a postdoctoral research associate in 2017 to investigate the impact imposed on different forms of ecosystem and food production aquaculture by the physical environment. And also, how the introduction of these different forms of aquaculture into the marine environment affects the receiving physical environment.

Andrew received a Bachelor of Engineering degree with honours from The University of Melbourne. After several years working for a consulting engineering firm, he undertook graduate studies with a consortium of European Universities and attained the degree of Master of Coastal and Marine Engineering and Management (CoMEM) cum laude.





Sharyn Hickey

Sharyn Hickey's postdoctoral research at UWA and AIMS involves applying remote sensing and spatial data to ecological studies in the shallow marine and intertidal environment. Her particular focus is on the spatial and temporal dynamics of these habitats and understanding what is driving change, how this affects ecosystem services, and how to apply innovative technology to manage and monitor these areas.

Sharyn's research includes applying spatial analysis techniques to ecological studies, including mangrove dieback, blue carbon assessments, and anthropogenic impacts on seagrass and coral.

Prior to commencing her current position, Sharyn graduated from the University of Sydney with a Bachelor of Marine Science (Hons) and then went on to work in the spatial sciences, while expanding her interest in the marine environment through recreational diving and various field internships. Sharyn then attained her PhD, which focussed on utilising remote sensing to investigate mangrove biomass and carbon spatial and temporal dynamics at Ningaloo, at UWA supported by the CSIRO Flagship Marine and Coastal Carbon Biogeochemical Cluster.



Luke Thomas

Postdoctoral scholar Luke Thomas' research focuses on reef-building corals and combines genomic and transcriptomic tools with physiological and ecological data on projects related to gene flow, adaptation, recovery and ecosystem monitoring.

A research associate at the OI and AIMS, Luke has a background in population genetics and has worked on a variety of marine organisms, from sponges to fish. The ultimate goal of his postdoctoral research is to apply molecular techniques to help inform management on the quest to conserve our precious marine ecosystems.

Born in Melbourne, but raised in California, Luke completed his undergraduate degree in Environmental Science at the University of San Diego. Shortly after completion, Luke moved to Indonesia for six months to gain research experience before moving to Wellington in New Zealand to do a Masters' of Science in population genetics on the southern red rock lobster, *Jasus edwardsii*.

After completing that, Luke moved to Perth to complete a PhD on coral genetics with a focus on the Houtman Abrolhos Islands. After submitting his PhD, he moved back to California for two years for a postdoc position in California with Professor Stephen Palumbi at Stanford, before returning to the OI in November 2017 to take up his current role.



Lucy Robinson (CSIRO)

Lucy's research is focused on integrating and applying theory and knowledge from social and community psychology, social cognition, political science and governance and regulation to better understand and measure what drives social acceptance of (and support for) decisions involving natural resources.

With a background in quantitative ecology, natural resource management and decision support, Lucy has developed and applied a range of quantitative models and qualitative methods that integrate ecological findings with stakeholder values and/or community knowledge to deliver results that address specific management and policy demands – primarily relating to climate change and fisheries.

After her undergraduate degree at UWA, Lucy worked at the University of Melbourne as a Research Assistant before starting her PhD at the University of Queensland with support from the CSIRO Climate Adaptation Flagship. Lucy then worked at the University of Tasmania and Commission for the Conservation of Antarctic Marine Living Resources before her current position with UWA and CSIRO.

The oral history of our ocean environment

The important role of oral history in the study of our ocean environment and how it is being employed for a range of purposes were the focus of a paper co-authored by the OI's Associate Professor Gaynor with Joy McCann in 2017.

The paper explored how the oral histories of fishers and divers can be read as narratives about human relationships with an ocean environment. The authors propose that such narratives can play a role in fostering human capacity to live ethically in and with the marine world.

“What distinguishes oral history from other forms of history is its ability to convey how the past ‘felt’ and what it means to those who experienced it,” Associate Professor Gaynor said. “It can offer deeply personal, yet often shared, insights into the particularity of past physical environments in a way that makes sense in the present.”

Back in 2006, researchers at UWA undertook an oral history project associated with a benchmark scientific study on marine communities of the south west capes – a region of WA which extends from Geographe Bay around Cape Naturaliste to Cape Leeuwin.

The region was the subject of a state government proposal to establish a marine park (subsequently declared in 2012), and the proposal gave rise to considerable tensions among stakeholders because of different and conflicting interests in the marine environment.

The scientific study involved sonar mapping of the seafloor and a biological survey using conventional sampling techniques and an underwater video. The oral history

component was designed to provide an indication of how the local community perceives change and continuity in the marine and coastal environments of the region within living memory. The team also wanted to record some of the experiences of local fishers and divers.

Between late 2005 and early 2006, Amrit Kendrick for the UWA project team conducted oral history interviews with 15 fishers (recreational and commercial) and a dive operator, focusing on their activities around the region. Each interviewee had at least 20 years of experience, collectively representing a wealth of knowledge.

“Their oral histories included stories about taking too many fish, revealing a sense of ambivalence towards their actions in the past. Recording their memories of why they took what they now regard as ‘too much’ was valuable for two main reasons. Firstly, their memories illustrate changing ideas of acceptable or ‘good’ fishing practices. Secondly, they provide some insight into the subjective experience of unconstrained fishing,” Associate Professor Gaynor said.

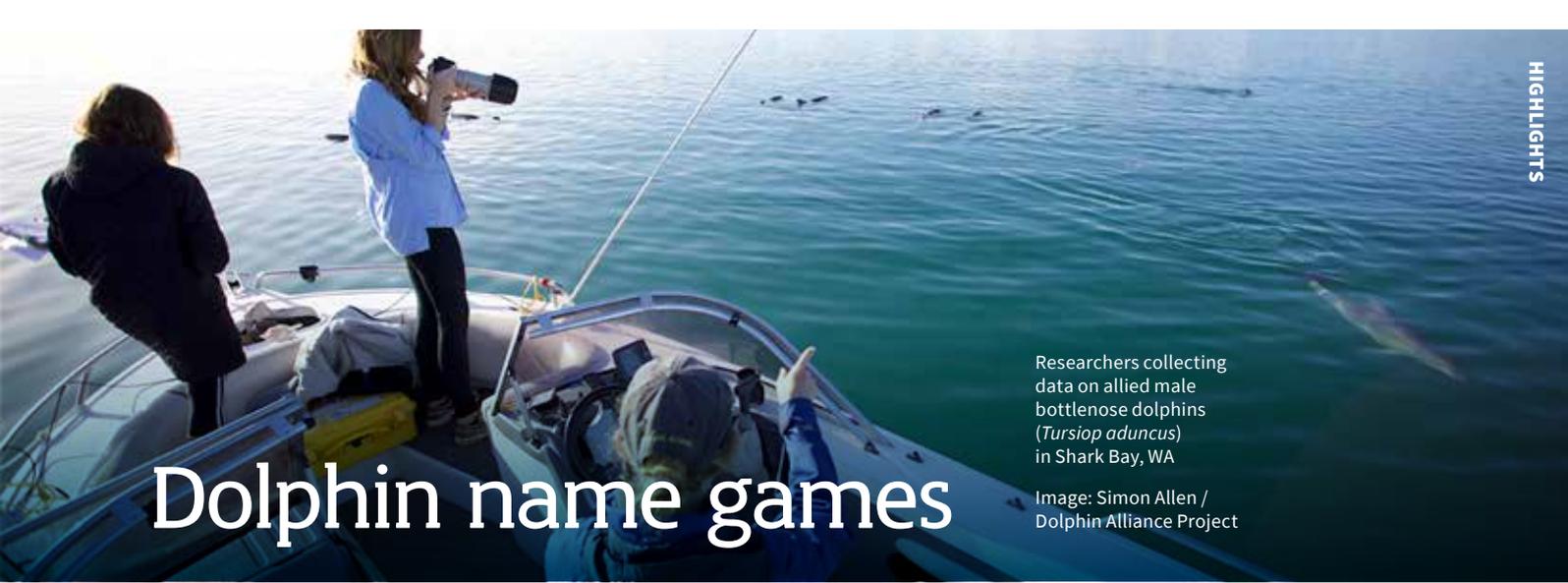
“Their memories also tell us what it was like for professional fishers operating in a context in which fish were raw material for the taking, with few cultural or legal limits on their harvest and no rewards for self-control. Since the times of simply taking fish ‘because you could’, we have seen the emergence

of such limits. The ambivalence of the interviewees towards their past actions, suggest these limits are now firmly embedded, not only in law but also culturally in some instances.

“When people talked about the history of fishing and diving in the region, they told stories about their intimate connections with the undersea environment, their relationship with marine life and their feelings of excitement and sadness about past fishing practices.

“While ocean scientists and resources managers tend to focus on the rational and utilitarian motivations, it is the ethical and emotive dimensions of experience, as revealed so powerfully through oral histories, that have the ability to shape the way in which fishers and divers develop an ocean consciousness and respond to environmental changes in the marine environment,” Associate Professor Gaynor said.

“In listening closely to people who have long and intimate experience of the underwater world, we can begin to understand the emotional and experiential dimensions of different kinds of fishing practices.”



Dolphin name games

Researchers collecting data on allied male bottlenose dolphins (*Tursiops aduncus*) in Shark Bay, WA

Image: Simon Allen / Dolphin Alliance Project

In June 2018, UWA researchers announced they had discovered that bottlenose dolphins can retain individual vocal labels, or ‘names’, to help recognise friends and rivals in their social network, much like humans.

The discovery paints a picture of the social intelligence of dolphins whereby no other non-human animals have been found to retain an individual ‘name’ when they form long-term cooperative partnerships with one another.

Scientists from UWA, University of Zurich and the University of Massachusetts, studied 17 well-known adult male dolphins in Shark Bay, WA, where males are known for their formation of alliances. These bonds are as strong as those between mothers and calves and the friendships can last entire lifetimes.

Researchers collected recordings of the dolphins’ vocalisations using underwater microphones and determined the individual vocal label of each male. They then measured the similarity of these identity signals within and between other alliances to see whether males that had stronger social relationships had unique vocal labels or not.

The OI’s Dr Stephanie King, from UWA’s Centre for Evolutionary Biology, said they discovered male dolphins retain individual vocal labels that allow them to track their cooperative partners, their competitors and help form fascinating multi-level alliances.

“This is an unusual finding as it is very common for pairs or groups of animals to make their calls more similar when they share strong social bonds. This can be seen in some parrots, bats, elephants and primates, and represents a means of advertising the strength of their relationships and their group membership” Dr King said.

“However with male bottlenose dolphins, it’s the opposite – each male retains a unique call, even though they develop incredibly strong bonds with one another.”

“The next step will be to study the males’ relationships with one another more closely,” Dr King said. “It will be interesting to reveal whether all cooperative relationships within alliances are equal or not.

The study is published in *Current Biology* and supported by grants from the National Geographic Society, the Swiss National Science Foundation and The Branco Weiss Fellowship.

Dolphins also cooperate with each other

Then in September 2018, came a further study from Dr King and the United States-based Dolphin Research Center which showed that bottlenose dolphins not only cooperate with each other, but can do so with precise behavioural coordination never before demonstrated in nonhuman animals.

“Cooperative behaviours are actually found throughout the animal kingdom,” Dr King said. “From small birds collectively dive-bombing a predator to drive it away, to ants teaming up to carry a large piece of food – that’s not new. But the question is how they’re doing it. Are they simply acting individually in the same place and time, or do they actually understand that they need their partner, and actively coordinate with them?”

To find out, the researchers created a task in which pairs of dolphins had to swim across a lagoon and each press their own underwater button simultaneously (within a one-second time window), whether sent together or with a delay between partners of up to 20 seconds.

Dr Kelly Jaakkola, of the Dolphin Research Center in the Florida Keys, said the researchers wanted to find out whether the dolphin sent first would wait for the other dolphin before pressing its button and whether they could figure out a way to coordinate precisely enough to press at the same time.

The results of the study, published in *Proceedings of the Royal Society B*, showed the dolphins not only waited for their partner, but also succeeded at the task with extreme precision, with the time between button presses in the latter trials averaging just 370 milliseconds.

The study was supported by grants from Jim and Marjorie Sanger and The Branco Weiss Fellowship.

Engineering a winning strategy for the Rottnest Swim

A team of OI scientists put their skills to good and practical use in February 2018 when they applied their engineering and marine expertise to come up with a strategy to help participants in the world-famous 'Rotto Swim'.

Used to crunching numbers and simulating complex interactions in the ocean, the researchers were looking at ways that swimmers could maximise performance on the day (aside from regular and vigorous training!)

Unlike most other relays, the Rottnest Channel Swim allows team members to take it in turns to swim and enter the water as often as they like.

Oceans Graduate School researcher, the OI's Dr Scott Draper, said if participants were to split the distance between four people, so that everyone swam around five kilometres continuously, swimmers would need to pace themselves.

Instead, he suggested participants planned shorter swims. "By doing that, you can effectively go about 25 per cent faster," he said. "However, there are other factors to consider, for example if the swim is too short then getting into and out of the support boat repeatedly can be tiring."

Dr Draper and colleagues, who formed a swim team for the race themselves, tested their theory by literally jumping in the deep end – into Perth's Swan River. They painstakingly collected data by swimming many hours with different relay swim distances.

"We found that swimmers who completed around 100m (or 1-2 minute) bursts at close to their sprinting speed could recover sufficiently between their successive legs to maintain a very high average swimming speed," he said. "This increase in average speed was also maintained when the swimmers simulated getting into and out of a boat between bursts."

Based on this, it appeared the ideal approach was to try for the shortest bursts possible throughout the race, although noted there can sometimes be limits to the change-over speed, depending on congestion.

Celebrating on Rottnest Island. Left to right: Justin Geldard (OGS), Hugh Wolgamot (OGS), Callum Griffiths and Scott Draper (OGS)



If looking at it from an endurance aspect wasn't enough, the scientists also threw a bunch of other factors into their experiment, including oceanographic data on wave motion and ocean currents. They used a solution to Zermelo's navigation problem, which determines the fastest route for a swimmer/boat to travel between two locations, accounting for ocean currents using the OI's ocean current data provided by Professor of Coastal Oceanography Chari Pattiaratchi.

Professor Pattiaratchi, who has been making current predictions for the Rottneest swim for many years, said ocean currents were a critical factor as the swimmers approached the island where currents were strongest.

“Usually, currents flow from south to north and occasionally as seen in 2017, currents flow from north to south sweeping swimmers to the south of the island so they're not able to complete the swim. Understanding the currents is vital so that you can choose a route that maximises your chances of success,” he said.



Training in the Swan River at Matilda Bay. Left to right: Terry Griffiths (kayaker & OGS), Callum Griffiths, Justin Geldard (OGS)

After the event, the researchers compared their own data against their predictions and shared their experiment with colleagues. “The results were promising”, Dr Draper said. “Our route planning and relay tactics played out well, but our ability to do a proper assessment was hampered by a shark sighting which meant that we temporarily had to leave the water part way through the race.”

To better test their modelling, the group are planning to return to the water in 2019.



The rise of turfs – flattening of kelp forests

Kelp forests around the world are being degraded into flat seascapes carpeted by short, unwanted turf-algae and the WA coastline is one of the worst-affected areas, found the OI's Associate Professor Thomas Wernberg and Dr Karen Filbee-Dexter (formerly with the Norwegian Institute for Water Research and now with the Norwegian Institute of Marine Research).

Their study, published in the leading journal *BioScience*, was the first time scientists have assessed the global extent of the transformation.

Professor Wernberg said that over the past two decades many kelp forests had collapsed and been replaced by rapidly growing mats of sediment packed turf algae.

"The underlying drivers vary from place to place but humans are the root cause. This is all comes back to how people affect the global and local environment," he said.

"Most worryingly, these critical transitions can be very difficult to halt or reverse because climate change is pushing more and more kelp forests over the tipping point for collapse."

Caption: Changes to the Kalbarri seabed.



Dr Filbee-Dexter said some of the worst affected areas included Western Australia, southern Norway and Atlantic Canada.

"Climate-driven marine heat waves, strong storms, expanding tropical herbivore ranges, gradual warming temperatures, invasive species and nutrient pollution are some of drivers shifting kelp forests into degraded turf reefs," she said.

"The problem is, kelps thrive in cool water and ocean warming is stressing them, lowering their capacity to resist the many pressures they are facing."

Professor Wernberg said the socio-economic as well as ecological consequences of this global deforestation could be devastating.

"Kelp forests support ecosystem services such as biodiversity and fisheries resources worth up to almost \$1 million per kilometre of coastline per year," he said. "Our research is now changing from documenting kelp loss to discovering solutions to curbing the rise of turf and the flattening of our global kelp forests."

"These active solutions are the only way forward if we want to maintain these unique and valuable ecosystems."

Kelp forests mitigating climate change under threat

This was followed by results of a global study led by an OI team and the Marine Biological Association of the UK which found that kelp forests take in more than twice the amount of carbon dioxide than previously thought, which can help mitigate the impact of climate change.

However the scientists also found that this ability was hampered by the warming of waters across the globe by up to three times, which they said is cause for concern.

Lead author Albert Pessarrodona from the OI and School of Biological Sciences said the research was centred around what happened to greenhouse gasses emitted as a result of burning fossil fuels.

"So far, the oceans have captured around 40 per cent of the carbon dioxide emitted by humans, so figuring out how carbon moves through that system is hugely important," he said.

Kelp forests occur in cold, nutrient-rich water and are among the most productive ecosystems on earth, absorbing vast amounts of carbon dioxide in order to grow.

“That carbon can then be channelled into habitats where it is locked away from the atmosphere (carbon sinks), playing an important role in mitigating the effects of global warming,” Mr Pessarrodona said.

“What is really concerning though, is that kelp forests living in warmer waters contain on average three times less carbon than those living in colder waters.

“This suggests that future ocean warming will decrease the capacity of kelp forests to absorb carbon, particularly in areas where forests are already under stress from warmer temperatures, such as Portugal or the Australian mid-West.”

The scientists studied kelp forests from Norway to Portugal and in eight locations spanning 900 kilometres along the coast of Great Britain. Their observations have important

implications for the future of oceans and management of global warming. “The study comes as the debate of how we manage coastal ecosystems to tackle climate change intensifies, and our results suggest kelp forests have a more important role to play than previously thought,” Mr Pessarrodona said.

The study has been published in *Global Change Biology*.

In some good news Dr Karen Filbee-Dexter has been successful in winning a Discovery Early Career Researcher Award and will join UWA later this year where she will be carrying out research that is an extension of the global turf work outlined above.



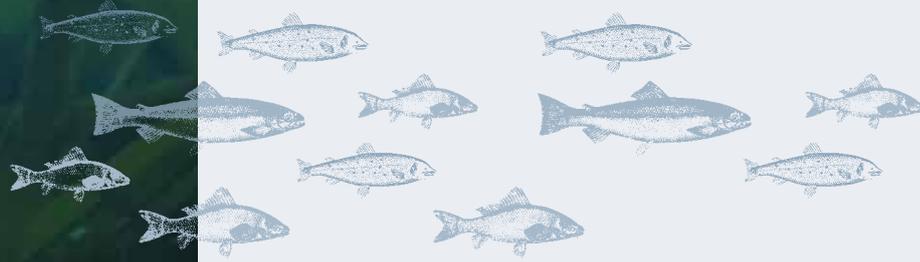
Great Southern Reef to lose huge seaweed habitat to ocean warming

Research by the OI into the future of Australia's 'other reef' – the Great Southern Reef – shows that even under the most optimistic carbon emission scenarios, ocean warming is likely to cause substantial loss of critical habitat-forming seaweeds by 2100.

The study, by OI Associate Professor Thomas Wernberg and a team of international and Australian colleagues, was published in *Diversity and Distributions*. The Great Southern Reef is a massive series of rocky reefs with extensive kelp seaweed forests that extend around Australia's southern coastline, covering around 71,000sqkm from Brisbane to Kalbarri.

Professor Wernberg said that over the next 85 years our temperate coastlines are likely to experience substantial reductions of habitat-forming seaweeds, which are the biological engine of the Great Southern Reef.

“We looked at the present and future distribution of 15 large dominant seaweed species and found they would lose between 30-100 per cent of their current area to ocean warming even under the most optimistic scenario where we aim to limit global warming to less than 2C,” Professor Wernberg said.



“This is bad news because these seaweeds support our globally unique marine biodiversity and important recreational and commercial fisheries such as abalone and rock lobster, Australia’s most valuable fisheries.”

All but two of the 15 species were predicted to contract southwards before 2100. Currently dominant species such as common kelp and strapweed were predicted to lose nearly half of their present distribution to become compressed in pockets on the south coast. Other seaweeds such as giant kelp, bull kelp and crayweed were predicted to become extinct from the Australian continent.

Professor Wernberg said it was well known how climate change was causing ocean temperatures to increase in many regions. This was a problem for cool-water species such as temperate seaweeds and they would shift their distribution into cooler waters as a consequence, he said.

Co-author Dr Ben Radford, an ecological modeller with the Australian Institute of Marine Science (AIMS), said there was a very strong relationship between ocean temperature and the presence of different species.

“By determining this relationship, and combining it with projections of future ocean temperatures from climate models, it is possible to predict where certain species are likely to be found or not in the future,” Dr Radford said.

Professor Wernberg said the socio-economic as well as ecological consequences of these reductions of habitat-forming seaweeds could be devastating.

“These seaweeds are the trees of the oceans and the foundation of kelp forests that support ecosystem services such as biodiversity and fisheries resources worth more than \$10 billion per year in Australia,” he said.

“In response, our research focus is now changing from documenting kelp loss to discovering solutions to increase seaweed resilience and improve restoration of impacted kelp forests. These active solutions are the only way forward if we want to maintain these unique and valuable ecosystems.”

The common kelp is currently a dominant seaweed in kelp forests across the Great Southern Reef. It is predicted to lose almost half of its current distribution to ocean warming before 2100 (Image credit: T. Wernberg)



Coral reefs protect coasts from severe storms

Coral reefs can naturally protect coasts from tropical cyclones by reducing the impact of large waves before they reach the shore, announced OI member Dr Michael Cuttler, from the ARC Centre of Excellence for Coral Reef Studies (Coral CoE) in April 2018.

Dr Cuttler said although tropical cyclones can wreak havoc on coastal infrastructure, marine habitats and coastal populations, a fringing reef can protect the beach from extensive erosion during these severe weather events.

“Reefs can effectively protect shorelines because of their ability to cause waves to break offshore, thus limiting the energy impacting the coastline,” he said.

Dr Cuttler and several of his Coral CoE colleagues studied Ningaloo Reef - Australia’s largest fringing reef system, and a UN World Heritage site - during Tropical Cyclone Olwyn in 2015. Olwyn was a Category 3 severe tropical cyclone that caused extensive damage to coastal communities along the coast of Western Australia.

The team observed that the shoreline remained largely unscathed because of the protection of its offshore reef. “The large waves generated by the cyclone were effectively dissipated by the reef situated offshore,” Dr Cuttler said. “The little erosion that did occur was due to smaller waves that were generated by wind within the lagoon.”

The shape, or geomorphology, of the reef - with its steep fore-reef slope, shallow reef crest and reef flat, and relatively shallow lagoon - is representative of most fringing reefs worldwide. “In this study, we also compared similar cyclone impacts on coastlines without reefs and found that these beaches were eroded up to ten times more than the beach at Ningaloo,” Dr Cuttler said.

While the findings of Dr Cuttler’s study indicated that coral reefs can effectively protect coastlines from tropical cyclones and other large wave impacts, it also suggested that for reef systems with lagoons, local wind

effects cannot be ignored when attempting to model or predict the impact of cyclones. He also warned that the ability of reefs to protect adjacent coastlines was threatened by both sea level rise and slowing rates of reef accretion.

Dr Cuttler and his Coral CoE colleagues found the results could be used to assess coastal hazards facing reef-fringed coastlines due to extreme tropical cyclone conditions, and would become increasingly relevant as climate change altered the status of coral reefs globally.

The paper “Response of a fringing reef coastline to the direct impact of a tropical cyclone” is published in the journal *Limnology and Oceanography Letters*.

Study reveals how sub-tropical corals cope with the cold

In May, came another study from the OI which found that corals growing in high-latitude reefs in WA can regulate their internal chemistry to promote growth under cooler temperatures. The research, from the ARC Centre of Excellence for Coral Reef Studies and



Corals in shallow waters at Ningaloo Reef



published in *Proceedings of the Royal Society B*, suggested ocean warming may not necessarily promote faster rates of calcification of corals on sub-tropical reefs where temperatures are currently cool (lower than 18C).

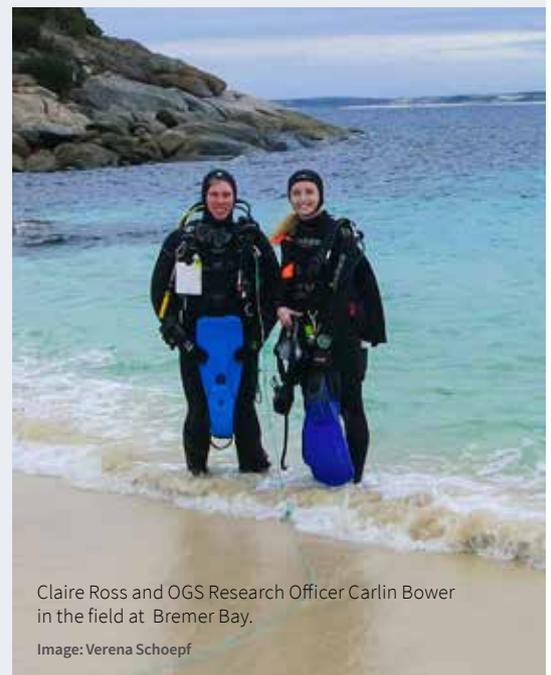
Lead author Dr Claire Ross said research was carried out over two years in WA's Bremer Bay, 515km south-east of Perth in the Great Southern region – a renowned diving, snorkelling and tourism hot spot due to its stunning crystal clear waters, white sand and high marine biodiversity.

“For two years we used novel geochemical techniques to link the internal chemistry of the coral with how fast the corals were growing in a high-latitude reef,” Ms Ross said. “These high-latitude reefs (above 28 degrees north and below 28 degrees south) have less light and lower temperatures compared to the tropics, and essentially they provide natural laboratories for investigating the limits for coral growth.”

Claire said the researchers expected the corals to grow slower during winter because the water was colder and light levels lower but they were surprised to find the opposite pattern. “We were able to link the remarkable capacity for these cold water corals to maintain high growth during winter to the regulation of their internal chemistry,” she said. “We also found that there was more food in the water for corals during winter compared to summer, indicating that corals may feed more to sustain growth.”

Coral reefs are one of world's most valuable natural resources, providing a habitat for many ocean species, shoreline protection from waves and storms, as well as being economically important for tourism and fisheries. However, their capacity to build skeletons is under threat due to CO₂-driven climate change. The effects of climate change on coral reefs are likely to vary geographically, but relatively little is known about the growth rates of reefs outside of the tropics.

“Our study is unique because it is among the first to fully decipher the corals’ internal chemistry. The findings of this study help better understand and predict the future of high-latitude coral reefs under CO₂-driven climate change.”



Claire Ross and OGS Research Officer Carlin Bower in the field at Bremer Bay.

Image: Verena Schoepf



Image: The West Australian Newspaper

The great debate – plastic versus metal water bottles

With reusable water bottles quickly growing in popularity in recent years for the health-conscious, environmentally aware and as a trendy sports item, Professor Anas Ghadouani from the UWA School of Engineering and Oceans Institute put the health and safety of water bottles to the test in 2018.

Professor Ghadouani said there was growing interest in the use of reusable water bottles with people keen to protect the environment.

“However there is also interest about how safe it is to drink from metal water bottles, which types are the best and how reusable metal water bottles compare to reusable plastic ones,” he said.

“Metal water bottles made from food-grade stainless steel can be expensive but are very safe, long-lasting and environmentally friendly.

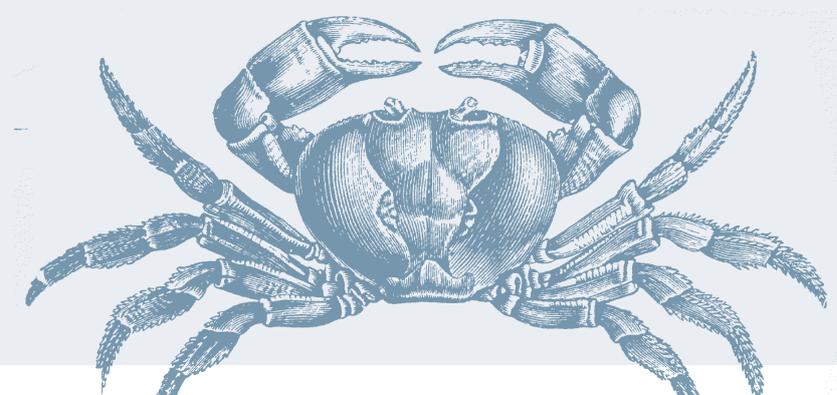
“I would tend to steer clear of bottles made from lower grade metals that can break down, or metal bottles that are very cheap.”

“The next best thing is the reusable plastic water bottle – promotional or sports bottles sold in retail outlets. These are a good option but for cleanliness they should only be used for around a year before replacing them.”

Professor Ghadouani said the worst option was the common pre-filled bottled water containers widely available.

“These mass-produced bottles made from polyethylene terephthalate (or PET) can leach small amounts of plastic into the water over time which is not good for us, and their high disposable rate is terrible for the environment. The amount of plastic leached can be made worse by leaving them in the sun,” he said.

“The key message really is to ensure the bottle is durable and made from quality food-grade material and that the bottle is kept clean at all time.”



Fish at home on subsea oil and gas pipelines

The project team used specialised baited cameras to compare fish diversity, abundance and size along a 42.3km subsea pipeline. Here a Leopard Shark checks to see what all the fuss is about

OI PhD student Todd Bond had a busy year in 2018, taking home the prize for best student talk at the Marine Alliance for Science and Technology (MASTS) annual science meeting in Scotland.*

Todd was also lead author on a paper published in the open source journal *PLOS One* on 'The influence of depth and a subsea pipeline of fish assemblages and commercially fished species'.

The research project carried out on a BHP subsea oil and gas pipeline off the north-west coast of Australia found the pipeline has two to three times more the commercial value of fish than surrounding areas in deep waters.

The project team, led by UWA in collaboration with BHP, used specialised baited cameras to compare fish diversity, abundance and size along a 42.3km subsea pipeline with surrounding habitats.

Researchers found the pipeline, which extends from the shallows to depths of greater than 140 metres had 131 species recorded on it, including the critically endangered Green Sawfish.

In depths beyond 80 metres, the pipeline had two to three times the value of commercial fish species than surrounding habitats with fish species such as Goldband Snapper, Saddletail Snapper and Moses' Snapper recorded in high numbers.

In depths less than 40 metres, fish numbers were similar on the pipeline to those observed off the pipelines.

Todd explained the study showed the depth of the pipeline and availability of habitat in adjacent areas are important features defining differences in the fish community.

"We see a greater difference in the fish on and off the pipeline in deeper water, where their naturally occurring complex habitat becomes limited," he said.

"It's important we understand the interaction between pipelines and local fisheries to inform future decisions around how they are managed. Hundreds of offshore oil and gas fields in the Asia Pacific will reach the end of their productive life over the next decade. Knowledge of the ecosystems supported by subsea infrastructure will help ensure that these assets are decommissioned in the way that maximises the benefit to the community and environment."

* Todd's trip to Scotland to attend several conferences and work with the Scottish Association of Marine Science (SAMS) was made possible by support from the OI and the funding received through a Robson and Robertson Award.



The ocean is his office... OI PhD student Todd Bond gets to work

Collaboration



KISSME team sets sail!

The acronym alone was enough to attract attention but the Kimberley Internal Soliton, Sediment and Mixing Experiment, aka KISSME, was serious business.



Back in April 2017, members of the UWA Ocean Dynamics group and the OFFshore IRTH (or Industrial Transformation Research Hub for Offshore Floating Facilities) travelled to the highly energetic Browse Basin; a region of great environmental and economic significance to Australia.

“The experiment aimed to capture the special scales of extreme physical oceanographic processes on the North West Shelf, particularly nonlinear internal waves or solitons.

Led by Professors Greg Ivey and Dr Nicole Jones, the first trip involved deployment of a triangular array of full water-column moorings and bottom mounted frames as well as several days of ship-based water sampling and turbulence microstructure profiling.

“The ultimate goal was to gain a better understanding of oceanographic processes and how they could aid in the design and operation of offshore infrastructure.”

A second journey, in May 2017, involved the successful retrieval of all deployed instruments.

KISSME was a collaboration between the IOMRC partners – UWA, AIMS and CSIRO. The UWA component comprised Project 1 (Metocean) of OFFshore IRTH, a joint industry-ARC sponsored initiative with partners Shell, Woodside, Bureau Veritas and Lloyds Register.

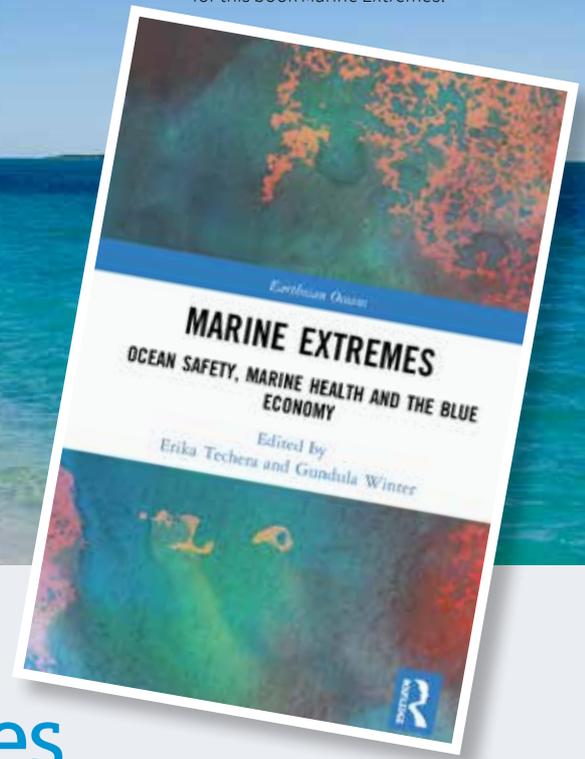
“The moorings and bottom frames, equipped with a range of oceanographic equipment, logged ocean variables including water currents, temperature and salinity for six weeks in 250m of water depth,” explained Professor Ivey.

The UWA research associates included Dr Cynthia Bluteau, Dr Matt Rayson, Andrew Zulberti, Sasha-Lee Pretrious, Tamara Schlosser, Brad Rose and Justin Geldard, under the supervision of Professors Ivey and Jones.



Image: Joan Costa

The workshop spawned the idea for this book *Marine Extremes*.



Matariki workshops cover marine extremes

In December 2017, Matariki Network members working on ‘marine extreme’ research came together for a two-day workshop hosted by the OI.

Senior academics, early career researchers and research students of each Matariki partner involved or interested in marine research were selected to present their research on one of three themes: safe oceans, healthy oceans or wealth from the oceans.

Lead coordinator for the event, Dr Gundula Winter, said the aim was to explore opportunities for research collaboration across the Matariki Network and across disciplines.

“Breaking down traditional research barriers and thinking outside of the box are key to safeguarding ocean health, community development and blue economy initiatives in a changing world,” Dr Winter said.

“From discussing slavery and illegal fishing, to hurricane impacts on barrier islands and ecological consequences of marine heatwaves, the workshop proved to be a success with a range of presentations and discussion points that explore key issues and opportunities surrounding the three themes.”



Matariki Network members

The Matariki Network of Universities is a select international group of seven outstanding universities, with each member leading international best practice in research and education based on long academic traditions.

Members include The University of Otago, New Zealand; The University of Western Australia; University of Tübingen, Germany; Uppsala University, Sweden; Durham University, England; Dartmouth College, United States; and Queen’s University, Canada.

The workshop also spawned the idea for the recently published book ‘*Marine Extremes: Ocean Safety, Marine Health and the Blue Economy*’ by Prof Erika Techera and Dr Gundula Winter, to which - amongst others - many of the workshop participants contributed.

UWA will host the second Matariki workshop in December 2019 under the same ‘Oceans and Blue Economy’ banner, continuing an ongoing and effective collaboration and the only research theme UWA leads for the Matariki Network of Universities.



MOU with Deltares to lead to increased collaboration



Professor Ryan Lowe and Simone Van Schijndel (centre) at the signing of the MOU between UWA and Deltares

In April 2017 an agreement between UWA and the world-renowned Dutch research institute Deltares was signed, indicating a desire by both to increase collaboration on a broad range of research topics, in particular related to coastal dynamics, water quality modelling and offshore engineering in Australia and the Indian Ocean.

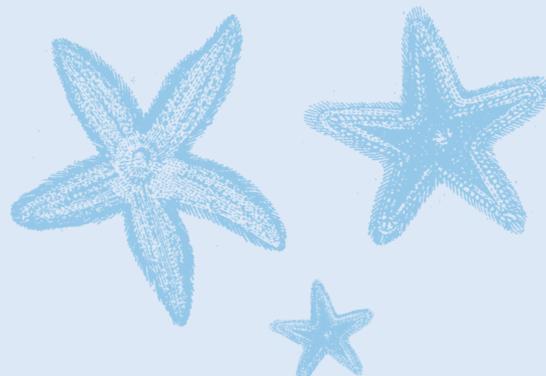
Deltares is an independent applied research institution specialising in the field of water and subsurface, with five areas of expertise. With knowledge at the core of its values and business model, Deltares believes in openness and transparency, evident from the free availability of its software and models.

UWA's Professor Ryan Lowe and Simone Van Schijndel, Regional Manager Australia and New Zealand for Deltares, signed the Memorandum of Understanding (MOU), with Ms Van Schijndel saying it brought collaboration between the two organisations "to the next level.

"In addition to working together on applied research projects, UWA and Deltares said they would work together on software development and professional training and towards promoting the exchange of researchers and students.

"A good example of collaboration that will address real-world challenges, is joint research to improve knowledge of the risks small low-lying islands in the Indian and Pacific oceans face with sea level rise and extreme storms, and the development of practical solutions to help mitigate these," Professor Lowe said.

"Deltares and UWA have the specific and complementary expertise that is needed to address these types of issues on a global scale."





Zhejiang University students in the foyer of the IOMRC building

Sharing knowledge with Zhejiang University

The collaboration between China's Zhejiang University and UWA continued to soar during 2017 and 2018, promoting complementary expertise and a joint vision to drive economic growth in oceans and marine development in both countries.

At the start of 2017, OI Director Professor Erika Techera attended Zhejiang University at the invitation of the ZJU Ocean College. She visited the Zhoushan Island campus and ZJU Ocean College facilities and met with colleagues from the ZJU Guangzhou Law School.

Highlights included a meeting with Professor Chen Ying (Dean of the ZJU Ocean College and Assistant President of ZJU) as well as professors from

the ZJU Ocean College, including Professors Wu Jiaping and He Zhiguo. During the visit, Professor Techera discussed arrangements for a student study tour to UWA following a successful 2016 trip and planning for the fourth UWA OI - ZJU Ocean College Workshop.

Progress was also made on expanding joint research activities and PhD supervision, given the significant and complementary infrastructure at both UWA and ZJU. On 6 March 2017 Professor Techera gave a public lecture at ZJU on 6 March 2017 entitled 'Addressing ocean challenges through collaboration'.

Then, in August 2017, the study tour came to life when 13 engineering and science students flew to Perth from Hangzhou in China for the ZJU Study Tour. Their program included

lectures on a wide range of engineering and marine science topics from key researchers within the OI. In addition, the visiting students were taken around Perth to check out the sights and to enjoy some cultural experiences.

In October 2017, a three-day UWA-ZJU workshop on 'collaborative opportunity for blue growth' was held at Zhoushan, the Island Campus for ZJU. The workshop focused on accelerating existing research collaborations, creating new links and identifying complementary facilities for advancing joint research goals between the universities.

The collaboration between China's ZJU and UWA's OI was established to create joint research programs and bring together closer links between marine researchers.



Seagrass Restoration Network launched

In July 2017, a group of marine scientists from UWA and Deakin University launched a new website to create more awareness about declining Australian and New Zealand seagrasses.

The initiative was led by OI member Professor Gary Kendrick and Deakin University's Dr Craig Sherman and was funded by The Nature Conservancy and Deakin University.

Linking scientists, industry practitioners, community and government policy makers, the website provides an up-to-date look at the development and implementation of awareness, conservation, recovery and restoration of seagrass meadows.

Some of the site's key features include a list of restoration activities throughout Australia and New Zealand, case studies demonstrating successful seagrass restoration and a discussion forum.

The website is part of a movement to improve our capacity and readiness for seagrass restoration in Australia and New Zealand and to generate momentum in development of long-term nationally coordinated restoration programs.



Image Joan Costa





Image: Belinda Cannell

UWA collaboration investigating Marine Ecosystems on the North West Shelf

The Browse Basin, located 450km north of Broome and 200km offshore, is home to a large number of oil and gas discoveries including the Prelude and Ichthys fields being developed by Shell Australia and INPEX.

In 2016, the Australian Institute of Marine Science (AIMS) led an effort to develop and implement an Applied Research Program (ARP) – a collaboration between industry, government agencies, UWA and other universities – to establish baselines in the area.

The collaboration was essential in evaluating the effects of a potential oil spill as well as carrying out scientific investigations in the remote waters off north western Australia.

Two of the ARP projects were led by UWA. The first, headed by OI and School of Biological Sciences researchers Dr Ylva Olsen and Professor Gary Kendrick, in collaboration with CSIRO, focused on primary producers and corals at Browse Island.

The small mid-shelf island is 200km off the Kimberley coast and is surrounded by a fringing reef. Due to its remoteness very little was previously known about the ecology of the reef, however as the closest to the Prelude and Ichthys fields, its intertidal and subtidal habitats were identified as priority sites.

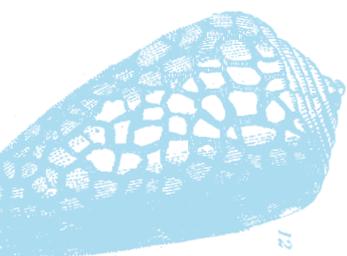




Image: Belinda Cannell

Beginning back in 2014, the team successfully completed four field trips to the island, collecting data on the cover of algae, corals and other invertebrates on the reef and analysing the metabolic rates of key organisms.

The consumption of macroalgae by fish was measured in several experiments and the team was able to characterise fish species using the intertidal reef. A key outcome was the ability to provide recommendations for continued monitoring of the reef benthos and sampling strategies for detecting changes in the cover of macroalgae and corals.

The second ARP project is on seabirds and was led by Dr Belinda Cannell from the OI and Associate Professor Amanda Ridley from the School of Biological Sciences in collaboration with Monash University.

The team focused its efforts on two of the three internationally significant islands for breeding seabirds in the Browse Basin: Adele Island (Monash University) and the Lacepede Islands (UWA).

Data collection by UWA began in 2014 and included images from remote cameras, dietary analyses from regurgitant samples and foraging locations obtained from GPS tags deployed on brown boobies.

In 2017, UWA delivered its penultimate report to Shell and INPEX, which focused on lesser frigatebirds and brown boobies and the differences between the two species.

The team found that breeding male and female lesser frigatebirds left the nest and returned to it at any time of the day or night, whereas brown boobies left the nest in the morning and returned in the evening, information which impacted on how far from the island each species could forage.

Similarly, to what had been found elsewhere, the diet of both seabirds was limited to just a few species of fish.



Global warming and recurrent mass bleaching of corals

From 2015 to 2016, record temperatures triggered a pan-tropical episode of coral bleaching. Described as one of the most severe global bleaching events ever recorded, it occurred in even stress-resilient coral reefs.

In 2017, UWA researchers were part of an international collaboration examining the impact and patterns of bleaching coral reefs over the past 20 years, including this one.

Their research, initially published in *Nature*, revealed the impact of the record temperatures and found that local management of coral reef fisheries and water quality affords little, if any, resistance to recurring severe bleaching events.

This was followed with a more detailed paper in *Scientific Reports* specifically focused on WA and the stress-resistant corals of the Kimberley region.

Coral bleaching occurs as the result of abnormal environmental conditions, such as higher sea temperatures, that cause corals to expel tiny photosynthetic algae called zooxanthellae. The loss of these colourful algae causes coral to turn white and bleach.

Terry Hughes from James Cook University and the ARC Centre of Excellence for Coral Reef Studies assembled a National Coral Bleaching Taskforce to lead and coordinate monitoring of bleaching throughout Australia. The taskforce's UWA-based team, led by the Ol's Dr Verena Schoepf and master's student Morane Le Nohaic, carried out surveys on the health of coral reefs.

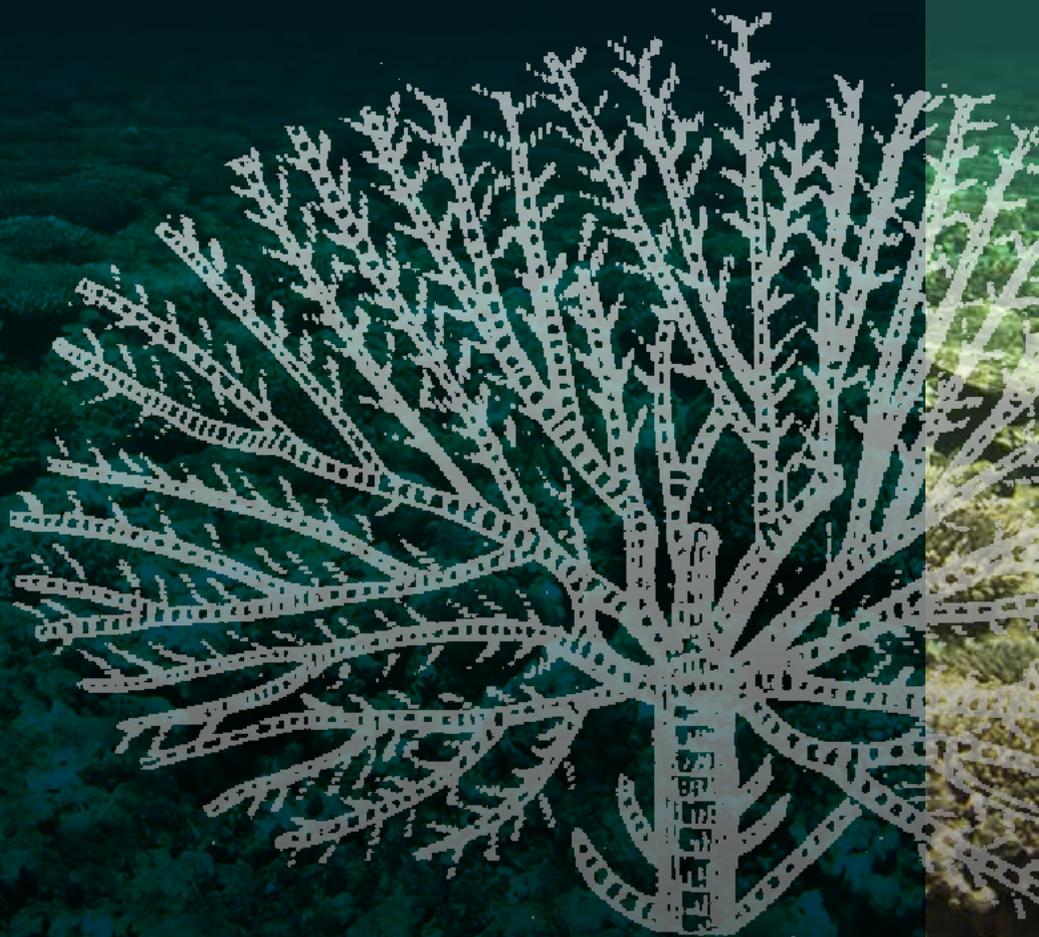
They found that in a span of 20 years, the geographic footprints of mass bleaching at the Great Barrier Reef have varied markedly. In 1998, bleaching was found to be primarily coastal and more severe in the central and southern regions.

Only four years later, in 2002, bleaching was more widespread and affected offshore reefs in the central region that had escaped in 1998. Fast forward to 2016 and bleaching was even more extensive and much more severe, especially in the northern regions, and to a lesser extent the central regions, where many coastal, mid-shelf and offshore reefs were affected.

In 2016 the proportion of reefs experiencing extreme bleaching was more than four times higher compared to 1998 or 2002.

Looking forward, their analysis has important implications for the management and conservation of coral reefs, particularly their finding that even the most highly protected reefs and near-pristine areas are highly susceptible to heat stress.

Local protection of fish stocks and improved water quality may, given enough time, improve the prospects for recovery, but immediate global action is required to secure a future for our coral reefs.



Local and international collaboration

Global study maps marine animal movements

A first-of-its-kind study mapping the global movements of a range of marine animals around the world – including whales, sharks, sea birds and polar bears – to understand how they travel our oceans was released in February 2018.

This study is the result of a worldwide collaborative effort from researchers involved in the Marine Megafauna Movement Analytical Program (MMMMap), and its release followed a week after a MMMMap forum at IOMRC, showcasing key research in the marine megafauna movement.

The study revealed that despite significant differences in body size, shape and mode of movement, marine animals move through the ocean in similar ways.

Lead author Dr Ana Sequeira from the OI said researchers from UWA and the Australian Institute of Marine Science (AIMS) analysed the satellite tracking of more than 2,500 tagged marine animals from 50 species, looking at their speed and movement patterns.

Unlike terrestrial species, where movement is commonly associated with body size, the team was surprised to find that unrelated marine species displayed similar movement patterns.

“We found that all animals display comparable movement patterns, for example, this is the case for large whales and for small seabirds,” Dr Sequeira said.

The differences found across all species were associated with where they were moving and is potentially linked with the way they use different marine habitats.

The analysis also revealed that movement on oceanic habitats was more directed (straight towards a key location) while in coastal environments it was more complex, suggesting animals adapt their behaviour when closer to shore potentially in search of food or for protection.

Dr Sequeira said it is important to understand how animals adapt their movement patterns to different environments, particularly as rapid changes are taking place in the ocean, with potentially profound effects on the conservation of these species.

“Understanding drivers of animal movement is crucial to assist mitigating adverse impacts anthropogenic activities on marine megafauna,” she said.

“While the results suggest marine species have adapted to different properties of the inshore and offshore marine environment, it’s still important to understand how, and how fast they can adapt.

“This is particularly important to guide conservation management in view of the forecasted severe ocean changes, including sea level rise and reduced Arctic sea cover.”

Co-author Dr Michele Thums from AIMS said the differences between in shore and offshore movements were most likely related to habitat differences.

“Inshore habitats such as reefs and seagrass are generally more complex compared to open ocean habitats offshore and therefore stimulating more complex movement patterns in these animals,” Dr Thums said.

Dr Sequeira is expanding the research to investigate global interactions between vessels and marine megafauna and invites potential data contributors to get in touch and become part of the extended MMMMap Group.

“MMMMap aims to significantly improve our understanding of marine megafauna movement at a global scale to ultimately assist the conservation and management of economically important charismatic and threatened highly migratory marine species,” she said.

“Animals like sharks, whales and turtles can be impacted by human activities including industrial and coastal development, ocean pollution, port infrastructure, coastal and offshore fisheries and shipping.

“However the extent of the impact is unknown, mostly because our understanding of their movements is limited.

“The economic and ecological value of MMMMap research will enhance our ability to exploit marine resources sustainably, while helping to set global standards and increasing capacity for the analysis of large ecological datasets.”

MMMMap is composed of a core group of 11 international experts in movement ecology and an extended network of more than 50 collaborators from 40 institutions across 11 nations. Since its inception the group has produced a number of high-impact research papers.

Conferences and Events

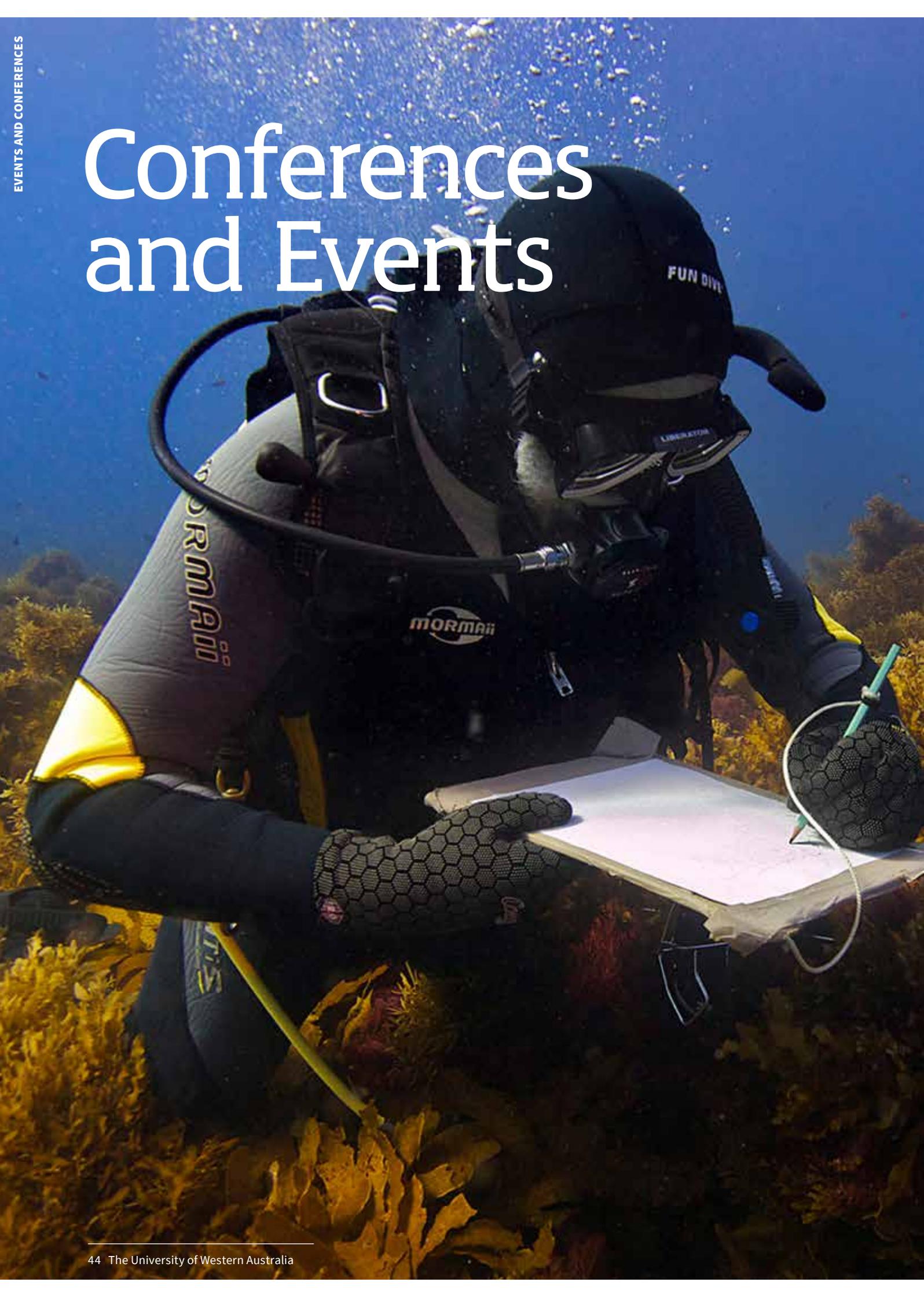




Image: Erika Techera

UN Ocean Conference

In June 2017, Professor Erika Techera, Director of the OI, was invited to the United Nations Headquarters in New York as part of the Australian Delegation for the inaugural UN Oceans Conference. Coinciding with World Oceans Day, this world-first major event presented a unique opportunity to reverse the decline of the health of the oceans and seas with concrete solutions.

With a focus on conservation, sustainable development and use of the oceans, topics such as rising sea levels, pollution, maritime crime, marine resource and tenable development were some of the key issues discussed over the five-day conference.

Already today, 30 per cent of the world's fish stocks are over-exploited, while more than 50 per cent are fully exploited. Coastal habitats are under pressure, with approximately 20 per cent of the world's coral reef lost and another 20 per cent degraded. Plastic waste alone kills up to one million sea birds, a hundred thousand sea mammals and countless fish each year.

Around 80 per cent of marine pollution comes from land-based activities. Vulnerable groups are particularly affected, including the poor, women, children, Indigenous people and coastal communities and countries with a high dependency on the oceans and their marine resources.

Nearly 180 states participated and agreed to a 14-point call for action that enshrines a greater commitment to global cooperation in the conservation and sustainable use of the oceans. More than 4000 participants from governments, the UN system and other intergovernmental organisations, NGOs, academia, the scientific community and the private sector were part of the conference that resulted in a number of outcomes.

One of the points on the action plan was the adoption of the "Our Ocean, Our Future: Call for Action" declaration, co-chairs' summaries of the seven partnership dialogues that were held during the conference, and more than 1400 voluntary commitments made in support of Sustainable Development Goal 14 by various stakeholders.

The Sustainable Development Goal 14 is part of the 2030 Agenda adopted by all 193 UN Member States in 2015. The goal calls for efforts to conserve and



Erika Techera at the UN Headquarters ready for the UN Oceans Conference



sustainably use the oceans, seas and marine resources for sustainable development.



In the zone: The Blue Zone Conference

Dr Erika Techera (centre) on stage during the Blue Zone conference

In October 2017, the Perth USAsia Centre and UWA hosted 'In the Zone: The Blue Zone' in Perth.

The latest in a series of strategic forums that began in 2009, The Blue Zone focused on the resources, environment and security of the Indo-Pacific maritime realm.

The conference brought together more than 35 national and international speakers across business, government and academia to discuss major global challenges affecting our oceans.

Attendees were told the maritime environment holds great opportunities and challenges for leaders and policy makers when considering around 90 per cent of global trade occurs across maritime shipping routes.

The potential of the sea floor to house substantial reservoirs of oil and gas and the possibility of fish and agriculture reserves being capable of feeding millions of people were also discussed.

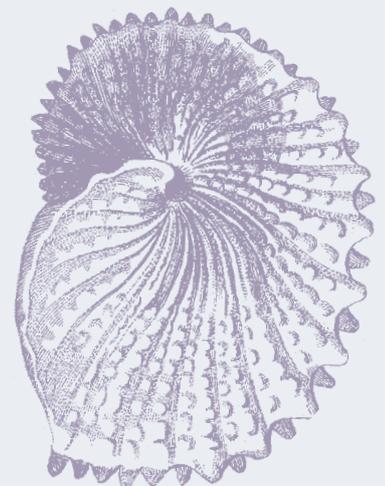
Attendees included WA Premier Mark McGowan, former Foreign Minister Julie Bishop and former President of the United Nations General Assembly and former South Korean Prime Minister DR Han Sueng-soo.

Then Oceans Institute Director Erika Techera was a keynote speaker, highlighting the unique opportunity to have so many policymakers, leaders and influencers together to discuss all things 'blue'.

"No-one has the resources to work alone; we must pool our expertise, experience, knowledge and skills if we want to ensure the health and viability of our oceans," Professor Techera said.

In the Zone has been influential in shifting WA's historical focus on its 'isolation' to one that recognises its changing demography and that is concentrated on deepening engagement with key neighbours.

Since its launch the forum series has attracted more than 5000 participants from the Indo-Pacific to Perth.





Kimberley Indigenous Saltwater Science Project (KISSP) (L-R) WAMSI Kimberley Marine Research Program Node Leader Stuart Field (DBCA), KISSP Project Leader Dean Matthews (Nyamba Buru Yawuru), Julie Melbourne (Manager Land and Sea Unit Nyamba Buru Yawuru), Rebecca Dobbs (UWA researcher), Beau Austin (CDU/CSIRO researcher) and WAMSI Kimberley Science Coordinator Kelly Waples (DBCA)

The WAMSI Research Conference – Kimberley Marine Research Program

In November 2017 the Western Australian Marine Australia Science Institution (WAMSI) Research Conference on the Kimberley Marine Research Program was held at the State Library of WA.

The two-day event showcased the science, findings, outcomes and products of the program to managers, researchers, industry and government stakeholders.

The \$30 million Kimberley Marine Research Program is leading the way in managing marine environments in the Kimberley region.

One hundred and sixty scientists from 10 partner agencies are working on delivering 26 research projects along the Kimberley coastline, an area stretching 13,500km.

Over 100 members to present at the conference included Professor Gary Kendrick, Dr John Statton, Ms Rene Gruber, Professor Malcolm McCulloch, Dr Verena Schoepf, Ms Rebecca Dobbs, Dr Simon Allen, Dr Matt Hipsey, Professor Greg Ivey and Professor Nicole Jones.

They covered topics as diverse as saltwater monitoring in the Kimberley to oceanographic dynamics, the conference was a success in showcasing research from one of the most remote and unique regions in Australia.

The WAMSI Conference also included the final results for the Dredging Science Node with presentations from Professor Gary Kendrick, Professor Ryan Lowe, Dr John Statton and Pia Bessell-Browne.

A landmark \$19 million collaboration between industry, government and researchers, Node is building the science knowledge to predict and manage the impacts of dredging which will lead to improved certainty, reduced costs and better environmental outcomes.



Professor Chris Doepel PSM, Deputy Chair Conservation Commission.

Media and Outreach

The OI continues to have a large and committed social media presence, with a local and global reach. The Institute’s Twitter and Facebook channels remain an effective means of engaging with a local audience, academic members and key stakeholders.

In addition, blogs created by OI researchers as well as YouTube videos are gaining traction, creating new means of engaging with researchers in the field.

Followers of the OI social media pages include international and national research institutions, industry and government, media, NGO’s, community groups and individuals.



3500+
Facebook likes



1800+
Twitter followers

From watching PhD students tagging sharks to researchers uncovering a communal grave from the shipwreck Batavia, the Institute actively promotes research projects and has an excellent track record of delivering timely and effective media coverage.

Image Joan Costa



Free resource for schools

Amazing fish facts a huge success

In December 2018 the OI took a hands on approach to engaging primary and secondary school children in marine science. Amazing fish facts that help to explain the serious side of WA's marine environment and why it's so important to protect it, as well as a species identification guide for young explorers, are all in the book *Perth Fish* that is available free to schools.

Written and compiled by fish ecologists Dr Dianne McLean and Research Assistant Michael Taylor and published by the OI, the book explains everything from the cultural significance of the ocean, to its diversity and abundance of marine life all interspersed with fun facts and beautiful images.

The researchers are providing copies to schools in an effort to engage primary and secondary children in marine science by developing knowledge and promoting an appreciation of fish life off our coast.

Here's one I spotted earlier. WA students explore the many amazing species of fish that populate the waters off our coastline



"I am hoping the book grows a love of the ocean in children and a desire to be in it and on it. That, like me, they like learning about all the different fish species and what makes each one unique," Dr McLean said.

The highlight of the book, according to Michael Taylor, is the species identification guide which includes photos, biological illustrations and statistics on 106 different species.

"There is a lot of interesting information throughout the book, but the real star for me is the identification guide," Michael said. "Photographers from around Australia donated some great images for it, and I hope that the children who come to look through it will start to recognise and learn about the fish that they see when they go out into the ocean."

The researchers plan to visit schools throughout 2019 to get feedback and develop worksheets with teachers. Schools can access hard copies of the book by emailing info@wamsi.org.au

About the authors

Dr Dianne McLean started with Australian Institute of Marine Science (AIMS) in WA as a fish ecologist in 2018 having previously been with UWA for 14 years. Dianne's research focusses on the impact of oil and gas infrastructure on fish and fisheries.

Michael Taylor was until recently a Research Assistant with Fish Ecology Group within the School of Biological Sciences at the OI. He is now working for AIMS.

Something fishy. Palmyra Primary School students and teachers were very happy recipients of the OI published text book on WA's amazing marine life



OI members talking Tedx



Research Fellow Verena Schoepf on the future of coral reefs.

Coral reefs provide livelihood and resources to millions of people worldwide, but climate change and mass bleaching threaten their future survival.

As mass bleaching events become more common due to rising ocean temperatures, it's increasingly urgent to understand what makes corals resistant to heat stress and climate change. Do super-corals offer a glimmer of hope?

In early 2017, OI member Verena Schoepf, a research fellow and also one of the program leaders in the ARC Centre of Excellence for Coral Reef Studies, was given the opportunity through TEDxUWA to present her research into particularly stress-resilient corals in the Kimberley region.

The discussion provided Verena with a world stage to talk about corals that are required to cope with extreme environmental conditions due to the world's largest tropical tides.

Her research has shown corals that live in the most extreme conditions, such as tide pools, have a higher resistance to heat stress and bleaching than deeper, subtidal corals.

She explained that during an unprecedented mass bleaching event in the Kimberley in 2016, tide pool corals were found to be fully recovering, whereas subtidal corals experienced severe mortality.

Speaking to her audience about what that meant for the future, Verena explained the results offer a mix of good and bad news.

Since extreme temperature environments boost the heat resistance of corals, they could potentially serve as a temporary refuge from climate change. Corals in these environments could also recover faster from bleaching and help repopulate those reefs that have been harder hit.

The bad news is that even super-corals from extreme environments nevertheless remain vulnerable to severe heat stress events. With such events becoming more frequent, it's unclear whether corals will be able to adapt fast enough to keep pace with global warming.

Verena assured the audience that, while there is reason to be alarmed about the future of coral reefs, there is hope these reefs under the sea will persist for many decades, with a good chance the super-corals from the Kimberley will be among the survivors.

Professor Anas Ghadouani on eating yourself out of a water shortage

At the other end of 2017, in November, award-winning Professor Anas Ghadouani, also presented a TEDx talk in Perth about a subject necessary for our survival – water.

A self-proclaimed water geek, Professor Ghadouani covered all aspects of water engineering and management in his presentation, with a relatable chocolate twist for the audience.

Highlighting the fact that 80 per cent of Australians know little about the very thing that is keeping them alive, the water expert asked the audience where they thought they used most of their water – Washing? Flushing? Gardening? Wrong.

The answer was bad news for chocolate lovers as Professor Ghadouani alerted the audience to the fact that making chocolate uses a lot more water than we think.

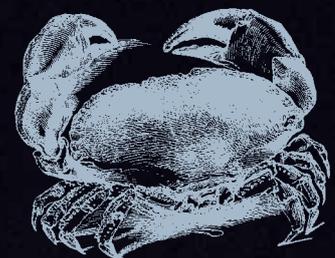
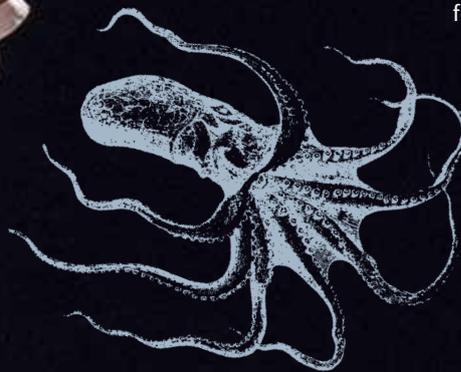
He said he came up with the ‘water for chocolate’ idea when he was thinking of ways to help people to relate to the conservation of one of our most precious resources.

“I wanted to articulate the importance of water-saving in a way that everyone could understand,” he said. “I started researching how much water goes into meat at first, but then I came across research that the amount of water that goes into chocolate production is significantly more.

“It’s interesting to see the look on the faces of the audience when I tell them that.”

Despite the ‘sweet facts’, the heart of Professor Ghadouani’s talk revolved around being conscious of self-aware of food wastage.

“I’m not saying stop eating chocolate, but I wanted people to leave and be more conscious of their water footprint,” he said.



All that glitters definitely not gold

The OI’s Anas Ghadouani, a professor of environmental engineering has also been leading the charge on a subject that might seem odd at first glance – glitter!

Professor Ghadouani has been collecting wastewater and environmental water from systems around Perth to analyse the amount, type and origin of microplastics — including glitter.

A microplastic is any plastic less than five millimetres in diameter and experts say they are making their way into water systems, marine life and eventually into us.

While the physical impact of plastics on animals is well documented, scientists are now trying to determine how they affect the breathing and brain function of humans.

“While we don’t yet know all the details,” Professor Ghadouani said. “What we’re talking about is not a natural product that will morph into our systems. It’s not like nutrients, it’s a chemical.

“If you breathe microplastics into your lungs they don’t decompose, they stay there.”

Plastics is the name we give to a group of substances mostly made from carbon-based molecules arranged in many repeat units (n) in a long chain known as a polymer. There are many different types of plastics depending upon what’s attached to the carbon.

Most plastics are derived from petroleum, although some newer ones, known as bioplastics, are derived from building blocks produced by microbial fermentation or from corn syrup. Chemicals including colourants, foaming agents, plasticisers, antioxidants and flame retardants can be added to different types of plastics to give them specific qualities such as colour, texture, flexibility and durability.

“I have little girls but I’ve mandated they only have birthday parties every second year because it takes me two years to get rid of glitter from the last party,” Professor Ghadouani said. “I still find it in some corners of my house, so imagine what it’s like in the environment.”

He said removing glitter and other microplastics from the market would force people to come up with alternatives, agreeing that while many environmentally-friendly options were more expensive than mass-produced plastics, choosing locally-crafted wooden Christmas decorations over plastic, glittery baubles for example, would eventually become more affordable.

“Harming the environment is harming business — that’s the end of the story,” he said, arguing sweeping legislation is the final frontier in removing microplastics from the environment.

“We need leadership here where people say ‘listen, this is how we’re going to party,” he said.

“We’re going to reinvent partying. The environment is what provides for us. It’s where we find our resources. It’s where we make our money. So harming it unnecessarily just doesn’t make sense.”

Tiny particles of plastic can cause serious environmental damage. Some of the fragments of plastic in this image are the same microbeads found in facial scrubs and exfoliating body washes. Image adapted from: Oregon State University; CC-BY-SA 2.0



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Publications



Image: Alex Kydd

Oceans Institute 2017 Publications

- Abdolahpour, M., Ghisalberti, M., Lavery, P. & McMahon, K (2017) Vertical mixing in coastal canopies. *Limnology and Oceanography*. 62 (1) 26-42
- Abdul Wahab, M. A., Fromont, J., Gomez, O., Fisher, R. & Jones, R (2017) Comparisons of benthic filter feeder communities before and after a large-scale capital dredging program. *Marine Pollution Bulletin*. 122(1-2): 176-193
- Achlatis, M., Van Der Zande, R. M., Schönberg, C. H. L., Fang, J. K. H., Hoegh-Guldberg, O. & Dove, S (2017) Sponge bioerosion on changing reefs: Ocean warming poses physiological constraints to the success of a photosymbiotic excavating sponge. *Scientific Reports*. 7(1)
- Ahmad Kamil, K., Hailu, A., Rogers, A. & Pandit, R (2017). An assessment of marine protected areas as a marine management strategy in Southeast Asia: A literature review. *Ocean and Coastal Management*. 145, 72-81
- Alam, M., Bennamoun, M., Togneri, R. & Sohel, F., Sep 2017, Deep neural networks for mobile person recognition with audio-visual signals. *Mobile Biometrics*. Guo, G. & Wechsler, H. (eds.). London: The Institution of Engineering and Technology, p. 97-129 (IET Book Series on Advances in Biometrics)
- Allen, S. J., Pollock, K. H., Bouchet, P. J., Kobryn, H. T., McElligott, D. B., Nicholson, K. E., Smith, J. N. & Loneragan, N. R (2017) Preliminary estimates of the abundance and fidelity of dolphins associating with a demersal trawl fishery. *Scientific Reports*. 7 (1)
- Almhasheer, H., Serrano, O., Duarte, C. M., Arias-Ortiz, A., Masque, P. & Irigoien, X (2017) Low Carbon sink capacity of Red Sea mangroves. *Scientific Reports*. 7(1)
- Andrade, R. L. B., Hatje, V., Masqué, P., Zurbrück, C. M., Boyle, E. A. & Santos, W. P. C (2017) Chronology of anthropogenic impacts reconstructed from sediment records of trace metals and Pb isotopes in Todos os Santos Bay (NE Brazil) *Marine Pollution Bulletin*. 125 (1-2): 459-471
- Arns, A., Dangendorf, S., Jensen, J., Talke, S., Bender, J. & Pattiaratchi, C (2017) Sea-level rise induced amplification of coastal protection design heights. *Scientific Reports*. 7(1)
- Barley, S., Meekan, M. G. & Meeuwig, J. J (2017) Species diversity, abundance, biomass, size and trophic structure of fish on coral reefs in relation to shark abundance. *Marine Ecology Progress Series*. 565: 163-179
- Barley, S. C. & Meeuwig, J. J (2017) The Power and the Pitfalls of Large-scale, Unreplicated Natural Experiments. *Ecosystems*. 20 (2): 331-339
- Barley, S. C., Meekan, M. G. & Meeuwig, J. J (2017) Diet and condition of mesopredators on coral reefs in relation to shark abundance. *PLoS One*. 12 (4)
- Beemer, R. D., Biscontin, G. & Aubeny, C. P (2017) Centrifuge 2D Gravity on a Vertical Rotational Reference Frame. *International Journal of Physical Modelling in Geotechnics*.
- Beemer, R. D., Biscontin, G., Murali, M. & Aubeny, C. P (2017) Use of a MEMS accelerometer to measure orientation in a geotechnical centrifuge. *International Journal of Physical Modelling in Geotechnics*.
- Beemer, R. D., Van Dam, A. & Cassidy, M., 30 Mar 2017, Development of a P-Wave Transponder System for Tracking Buried Objects in 1-g and Geotechnical Centrifuge Models. *Geotechnical Frontiers 2017: geotechnical materials, modeling and testing*. Brandon, T. L. & Valentine, R. J. (eds.). USA: American Society of Civil Engineers, p. 368-378 (GEOTECHNICAL SPECIAL PUBLICATION ; vol. 280)
- Bennett, S., Wernberg, T. & de Bettignies, T (2017) Bubble curtains: Herbivore exclusion devices for ecology and restoration of marine ecosystems? *Frontiers in Marine Science*. 4.
- Bessell-Browne, P., Negri, A. P., Fisher, R., Clode, P. L. & Jones, R (2017) Impacts of light limitation on corals and crustose coralline algae. *Scientific Reports*. 7 (1)
- Bessell-Browne, P., Negri, A. P., Fisher, R., Clode, P. L., Duckworth, A. & Jones, R (2017) Impacts of turbidity on corals: The relative importance of light limitation and suspended sediments. *Marine Pollution Bulletin*. 117 (1-2) 161-170
- Bienen, B. & Hossain, M., (2017) Spudcan-seabed interaction. *Encyclopedia of Maritime and Offshore Engineering*. Carlton, J., Jukes, P. & Sang, C. Y. (eds.). John Wiley & Sons
- Bienen, B., Hu, P. & Cassidy, M. J (2017) Bearing capacities of Spudcan Foundations in Clay after penetrating through a sand layer.
- Bienen, B., O'Loughlin, C. & Zhu, F (2017) Physical modelling of suction bucket installation and response under long-term cyclic loading. *Offshore Site Investigation and Geotechnics 2017 Conference Proceedings*. United Kingdom: Society for Underwater Technology, Vol. 1. 524-531

- Bluteau, C. E., Lueck, R. G., Ivey, G. N., Jones, N. L., Book, J. W. & Rice, A. E (2017) Determining mixing rates from concurrent temperature and velocity measurements. *Journal of Atmospheric and Oceanic Technolog.* 34 (10) 2283-2293
- Boschetti, F., Gaffier, C., Price, J., Moglia, M. & Walker, I (2017) Myths of the City. *Sustainability Science.* 12(4): 611-620
- Bouchet, P., Meeuwig, J., Huang, Z., Letessier, T., Nichol, S., Caley, M. J. & Watson, R. A (2017) Continental-scale hotspots of pelagic fish abundance inferred from commercial catch records. *Global Ecology and Biogeography.* 26 (10): 1098-1111
- Boukpeti, N. & White, D. J (2017) Interface shear box tests for assessing axial pipe-soil resistance. *Geotechnique.* 67(1) 18-30
- Braccini, M., Rensing, K., Langlois, T. & McAuley, R (2017) Acoustic monitoring reveals the broad-scale movements of commercially important sharks. *Marine Ecology Progress Series.* 577(9): 121-129
- Bransby, M. F., O'Driscoll, D., Zhu, H., Randolph, M. F. & Drummen, T (2017) Optimising foundation skirt geometries for reliable foundation capacity and installation. Pipelines, Risers, and Subsea Systems: ASME 2017 36th International Conference on Ocean, Offshore and Arctic Engineering. Norway: ASME International, Vol. 5B.
- Bransby, M. F., Ramm, M., Zhou, H., Low, H. E. & White, D. J (2017) Pipe-soil structure interaction: Best practices for spools, buckle initiators, end connections and sand waves. *Offshore Technology Conference, OTC 2017.* Offshore Technology Conference, Vol. 4. 2654-2668
- Cambridge, M. L., Zavala-Perez, A., Cawthray, G. R., Mondon, J. & Kendrick, G. A (2017) Effects of high salinity from desalination brine on growth, photosynthesis, water relations and osmolyte concentrations of seagrass *Posidonia australis*. *Marine Pollution Bulletin.* 115 (1-2): 252-260
- Carvalho, L. S., Pessoa, D. M. A., Mountford, J. K., Davies, W. I. L. & Hunt, D. M (2017) The genetic and evolutionary drives behind primate color vision. *Frontiers in Ecology and Evolution.* 5 (34)
- Casacuberta, N., Christl, M., Buessler, K. O., Lau, Y., Vockenhuber, C., Castrillejo, M., Synal, H. A. & Masqué, P (2017) Potential Releases of 129I, 236U, and Pu Isotopes from the Fukushima Dai-ichi Nuclear Power Plants to the Ocean from 2013 to 2015. *Environmental Science and Technology.* 51(17): 9826-9835
- Castrillejo, M., Casacuberta, N., Christl, M., Garcia-Orellana, J., Vockenhuber, C., Synal, H. A. & Masque Barri, P (2017) Anthropogenic 236U and 129I in the Mediterranean Sea: First comprehensive distribution and constrain of their sources. *Science of the Total Environment.* 593-594, 745-759.
- Chandler, J., White, D., Techera, E. J., Gourvenec, S. & Draper, S (2017) Engineering and legal considerations for decommissioning of offshore oil and gas infrastructure in Australia. *Ocean Engineering.* 131: 338-347
- Choi, J., Jang, B-S., Kim, J. D., Kim, Y. H. & Hossain, M. S (2017) Three-dimensional soil-SCR interaction coupled with global SCR analysis p. 85-89
- Chow, S., O'Loughlin, C., Gaudin, C., Knappett, J., Brown, M. & Tore Lieng, J., (2017) An experimental study of the embedment of a dynamically installed anchor in sand. *Offshore Site Investigation and Geotechnics : Proceedings of the 8th International Conference.* London: Society for Underwater Technology, Vol. 2.1019-1025
- Chow, S., O'Loughlin, C., White, D. & Randolph, M (2017) An extended interpretation of the free-fall piezocone test in clay. *Géotechnique.* 67(12): 1090-1103
- Ciglonecki, I., Ljubecic, Z., Janekovic, I. & Batistic, M (2017) Rogoznica Lake, a Euxinic Marine Lake on the Adriatic Coast (Croatia) that Fluctuates Between Anoxic Holomictic and Meromictic Conditions. *Ecology of Meromictic Lakes.* Gulati, RD., Zadereev, ES. & Degermendzhi, AG. (eds.). Switzerland: Springer International Publishing AG 125-154 (Ecological Studies-Analysis and Synthesis; vol. 228)
- Clarke, H., D'Oliveo, J. P., Falter, J., Zinke, J., Lowe, R. & McCulloch, M (2017) Differential response of corals to regional mass-warming events as evident from skeletal Sr/Ca and Mg/Ca ratios. *G3: Geochemistry, Geophysics, Geosystems: an electronic journal of the earth sciences.* 18 (5): 1794-1809
- Clifton, J. & Foale, S (2017) Extracting ideology from policy: Analysing the social construction of conservation priorities in the Coral Triangle region. *Marine Policy.* 82: 189-196
- Coasts & Ports 2017: Working with Nature.* Baldock, T (ed.) Barton, ACT: Engineers Australia, p. 933-937
- Cocjin, M. L., Gourvenec, S. M., White, D. J. & Randolph, M. F (2017) Theoretical framework for predicting the response of tolerably mobile subsea installations, *Geotechnique.* 67 (7) 608-620
- Coghlan, A. R., McLean, D. L., Harvey, E. S. & Langlois, T. J (2017) Does fish behaviour bias abundance and length information collected by baited underwater video? *Journal of Experimental Marine Biology and Ecology.* 497: 143-151
- Coimbra, J. P., Pettigrew, J. D., Kaswera-Kyamakya, C., Gilissen, E., Collin, S. P. & Manger, P. R (2017) Retinal ganglion cell topography and spatial resolving power in African megachiropterans: Influence of roosting microhabitat and foraging. *Journal of Comparative Neurology.* 525 (1): 186-203
- Coleman, M. A. & Wernberg, T (2017) Forgotten underwater forests: The key role of fucoids on Australian temperate reefs. *Ecology and Evolution.* 7 (20) : 8406-8418.

- Collins, D. L., Langlois, T., Bond, T., Holmes, T. H., Harvey, E. S., Fisher, R. & McLean, D. L. (2017) A novel stereo-video method to investigate fish-habitat relationships. *Methods in Ecology and Evolution*. 8(1): 116-125
- Comeau, S., Carpenter, R. C. & Edmunds, P. J. (2017) Effects of pCO₂ on photosynthesis and respiration of tropical scleractinian corals and calcified algae. *ICES Journal of Marine Science: journal du conseil*. 74 (4): 1092-1102
- Comeau, S., Cornwall, C. E. & McCulloch, M. T. (2017) Decoupling between the response of coral calcifying fluid pH and calcification to ocean acidification. *Scientific Reports*. 7 (1)
- Connor, R. C., Cioffi, W. R., Randia, S. A., Allen, S. J., Watson-Capps, J. & Krützen, M. (2017) Male alliance behaviour and mating access varies with habitat in a dolphin social network. *Scientific Reports*. 7 (1)
- Cornwall, C. E., Comeau, S. & McCulloch, M. T. (2017) Coralline algae elevate pH at the site of calcification under ocean acidification. *Global Change Biology*. 23 (10): 4245-4256
- Corti, R., Gourvenec, S. M., Randolph, M. F. & Diambra, A. (2017) Application of a memory surface model to predict whole-life settlements of a sliding foundation. *Computers and Geotechnics*. 88: 152-163
- Cresswell, A. K., Edgar, G. J., Stuart-Smith, R. D., Thomson, R. J., Barrett, N. S. & Johnson, C. R., (2017) Translating local benthic community structure to national biogenic reef habitat types. *Global Ecology and Biogeography*. 26(10): 1112-112514
- Cure, K., Thomas, L., Hobbs, J. P. A., Fairclough, D. V. & Kennington, W. J. (2017) Genomic signatures of local adaptation reveal source-sink dynamics in a high gene flow fish species. *Scientific Reports*. 7 (1)
- Cuttler, M. V. W., Lowe, R. J., Falter, J. L. & Buscombe, D. (2017) Estimating the settling velocity of bioclastic sediment using common grain-size analysis techniques. *Sedimentology*. 64 (4): 987-1004
- Darling, E. S., Graham, N. A. J., Januchowski-Hartley, F. A., Nash, K. L., Pratchett, M. S. & Wilson, S. K. (2017) Relationships between structural complexity, coral traits, and reef fish assemblages. *Coral Reefs*. 36 (2) 561-575
- Davis, K., Kragt, M., Gelcich, S., Burton, M., Schilizzi, S. & Pannell, D. (2017) Why are fishers not enforcing their marine user rights? *Environmental and Resource Economics*. 67(4): 661-681
- De Brauwier, M., Harvey, E. S., McIlwain, J. L., Hobbs, J. P. A., Jompa, J. & Burton, M. (2017) The economic contribution of the muck dive industry to tourism in Southeast Asia Marine Policy. *Marine Policy*. 83: 92-99
- de Busserolles, F., Cortesi, F., Helvik, J. V., Davies, W. I. L., Templin, R. M., Sullivan, R. K. P., Michell, C. T., Mountford, J. K., Collin, S. P., Irigoien, X., Kaartvedt, S. & Marshall, J. (2017) Pushing the limits of photoreception in twilight conditions: The rod-like cone retina of the deep-sea pearlsides *Science Advances*. 3 (11)
- DeCarlo, T. M., D'Olivo, J. P., Foster, T., Holcomb, M., Becker, T. & McCulloch, M. T., 24 Nov 2017. Coral calcifying fluid aragonite saturation derived from Raman spectroscopy. *Biogeosciences*. 14 (22): 5253-5269
- Dibattista, J. D., Travers, M. J., Moore, G. I., Evans, R. D., Newman, S. J., Feng, M., Moyle, S. D., Gorton, R. J., Saunders, T. & Berry, O. (2017) Seascape genomics reveals fine-scale patterns of dispersal for a reef fish along the ecologically divergent coast of Northwestern Australia. *Molecular Ecology*. 26 (22):6206-6223
- Dong, Y., Wang, D. & Randolph, M. F. (2017) Investigation of impact forces on pipeline by submarine landslide using material point method. *Ocean Engineering*. 146: 21-28
- Dong, Y., Wang, D. & Randolph, M. F. (2017) Runout of submarine landslide simulated with material point method. *Journal of Hydrodynamics*. 29 (3): 438-444
- Dong, Y., Wang, D. & Randolph, M. F. (2017) Runout of Submarine Landslide Simulated with Material Point Method. *Procedia Engineering*. Rohe, A., Soga, K., Teunissen, H. & Zuada Coelho, B. (eds.). Netherlands, Vol. 175. 357-364
- Drost, E. J. F., Lowe, R. J., Ivey, G. N., Jones, N. L. & Péquignot, C. A. (2017) The effects of tropical cyclone characteristics on the surface wave fields in Australia's North West region. *Continental Shelf Research*.
- Dufois, F., Hardman-Mountford, N. J., Fernandes, M., Wojtasiewicz, B., Shenoy, D., Slawinski, D., Gauns, M., Greenwood, J. & Toresen, R. (2017) Observational insights into chlorophyll distributions of subtropical South Indian Ocean eddies. *Geophysical Research Letters*. 44 (7): 3255-3264
- Dufois, F., Lowe, R. J., Branson, P. & Fearn, P. (2017) Tropical Cyclone-Driven Sediment Dynamics Over the Australian North West Shelf. *Journal of Geophysical Research: Oceans*. 122 (12) 10225-10244
- D'Olivo, J. P. & McCulloch, M. T. (2017) Response of coral calcification and calcifying fluid composition to thermally induced bleaching stress. *Scientific Reports*. 7 (1)
- Etminan Farooji, V., Lowe, R. & Ghisalberti, M. (2017) A new model for predicting the drag exerted by vegetation canopies : *Water Resources Research*. 53(4): 3179-3196
- Evans, S. M., Sinclair, E. A., Poore, A. G. B., Bain, K. F. & Verges, A. (2017) Assessing the effect of genetic diversity on the early establishment of the threatened seagrass *Posidonia australis* using a reciprocal-transplant experiment. *Restoration Ecology*. p. 1-11
- Fang, J. K. H., Schonberg, C., Hoegh-Guldberg, O. & Dove, S. (2017) Symbiotic plasticity of *Symbiodinium* in a common excavating sponge. *Marine Biology*. 164 (5)
- Feng, X. & Gourvenec, S., 2017. Effect of foundation flexibility on consolidation gains in undrained capacity. *Proceedings of the 8th International Conference on Offshore Site Investigation and Geotechnics (OSIG 2017)*. London, UK: Society for Underwater Technology, Vol. 2, p. 742-748

- Feng, X., Gourvenec, S. & Shen, Z (2017) Shape effects on undrained capacity of mudmat foundations under multi-directional loading. *Ocean Engineering*. 135: 221-235
- Feng, X., Randolph, M. F. & Gourvenec, S (2017) An analytical solution for the undrained horizontal-torsional resistance of mudmats. *Geotechnique*. (67)4: 325-337
- Ferrari, M. C. O., McCormick, M. I., Watson, S.-A., Meekan, M. G., Munday, P. L. & Chivers, D. P (2017) Predation in High CO2 waters: Prey Fish from High-Risk Environments are Less Susceptible to Ocean Acidification. *Integrative and Comparative Biology*. 57(1) 55-62.
- Ferreira, L. C., Thums, M., Heithaus, M. R., Barnett, A., Abrantes, K. G., Holmes, B. J., Zamora, L. M., Frisch, A. J., Pepperell, J. G., Burkholder, D., Vaudo, J., Nowicki, R., Meeuwig, J. & Meekan, M. G (2017) The trophic role of a large marine predator, the tiger shark *Galeocerdo cuvier*. *Scientific Reports*. 7 (1)
- Francis, C., Bolton, J. J., Mattio, L., Mandiwana-Neudani, T. G. & Anderson, R. J (2017) Molecular systematics reveals increased diversity within the South African *Laurencia* complex (Rhodomelaceae, Rhodophyta). *Journal of Phycology*. 53 (4): 804-819
- Franco, J. N., Wernberg, T., Bertocci, I., Jacinto, D., Maranhão, P., Pereira, T., Martinez, B., Arenas, F., Sousa-Pinto, I. & Tuya, F (2017) Modulation of different kelp life stages by herbivory: compensatory growth versus population decimation. *Marine Biology*. 164 (8)
- Fraser, M. W. & Kendrick, G. A. (2017) Belowground stressors and long-term seagrass declines in historically degraded seagrass ecosystem after improved water quality. *Scientific Reports*. 7 (1)
- Fu, D., Gaudin, C., Tian, Y., Cassidy, M. & Bienen, B. (2017) Uniaxial capacities of skirted circular foundations in clay. *Journal of Geotechnical and Geoenvironmental Engineering*. 43 (7)
- Gagliano, M., Grimonprez, M., Depczynski, M. & Renton, M., (2017) Tuned in: plant roots use sound to locate water. *Oecologia*. 184 (1). 151-160
- Galaiduk, R., Halford, A. R., Radford, B. T., Moore, C. H. & Harvey, E. S (2017) Regional-scale environmental drivers of highly endemic temperate fish communities located within a climate change hotspot. *Diversity and Distributions*. 23 (11) 1256-1267
- Galaiduk, R., Radford, B. T., Wilson, S. K. & Harvey, E. S (2017) Comparing two remote video survey methods for spatial predictions of the distribution and environmental niche suitability of demersal fishes. *Scientific Reports*. 7 (11)
- Gao, N. B., Yang, J. M., Zhao, W. H. & Li, X (2017) Numerical Simulation of Deterministic Freak Wave Based on Energy Distribution. *Chuan Bo Li Xue/Journal of Ship Mechanics*. 21 (12): 1449-1459
- Gaudin, C. & O'Loughlin, C (2017) Physical modeling of foundation systems. *Encyclopaedia of Marine and Offshore Engineering*. Carlton, J., Jukes, P. & Sang, C. Y. (eds.). United States: John Wiley & Sons, Vol. 1
- Gaudin, C., Cassidy, M. J., O'Loughlin, C. D., Tian, Y., Wang, D. & Chow, S (2017) Recent advances in anchor design for floating structures. *International Journal of Offshore and Polar Engineering: Proceedings of the 12th ISOPE Pacific-Asia Offshore Mechanics Symposium*. Chung, J. S. (ed.) 1 ed. International Society of Offshore and Polar Engineers, Vol. 27. 44-53
- Gaynor, A (2017) Entangled Nature: The Stirling Range National Park. *RCC Perspectives*. 2: 81-88
- Gaynor, A (2017) Lawnspring Perth: Water Supply, Gardens, and Scarcity, 1890-1925 *Journal of Urban History*.
- Gaynor, A. & McCann, J (2017) "I've had dolphins ... looking for abalone for me": Oral history and subjectivities of marine engagement. *The Oral History Review*. 44 (2) 260-277
- Goetze, J. S., Januchowski-Hartley, F. A., Claudet, J., Langlois, T. J., Wilson, S. K. & Jupiter, S. D (2017) Fish wariness is a more sensitive indicator to changes in fishing pressure than abundance, length or biomass. *Ecological Applications*. 27 (4) 1178-1189
- Gonneea, M. E., Cohen, A. L., DeCarlo, T. M. & Charette, M. A (2017) Relationship between water and aragonite barium concentrations in aquaria reared juvenile corals. *Geochimica et Cosmochimica Acta*. 209: 123-134
- Gonzalez-Bernat, M. J. & Clifton, J (2017) "Living with our backs to the sea": A critical analysis of marine and coastal governance in Guatemala. *Marine Policy*. 81: 9-20
- Gourvenec, S (2017) End of life or afterlife? *Offshore Engineer*. 42 (5): 36-38
- Gourvenec, S., Stanier, S., White, D., Morgan, N., Banimahd, M. & Chen, J (2017) Whole-life assessment of subsea shallow foundation capacity. *Offshore Site Investigation and Geotechnics 2017 Conference Proceedings*. United Kingdom: Society for Underwater Technology, Vol. 2, p. 787-795
- Gruber, R., Lowe, R. J. & Falter, J. L (2017) Metabolism of a tide-dominated reef platform subject to extreme diel temperature and oxygen variations. *Limnology and Oceanography*. 62(4) 1701-1717
- Gunawardena, A., Wijeratne, E. M. S., White, B., Hailu, A. & Pandit, R (2017) Industrial pollution and the management of river water quality: a model of Kelani River, Sri Lanka. *Environmental Monitoring and Assessment*. 189 (9)
- Hambleton, J. P. & Stanier, S. A (2017) Predicting wheel forces using bearing capacity theory for general planar loads. *International Journal of Vehicle Performance*. 3(1) 71-88
- Hansen, J. E., Raubenheimer, B., Elgar, S., List, J. H. & Lippmann, T. C (2017) Physical linkages between an offshore canyon and surf zone morphologic change. *Journal of Geophysical Research C: Oceans*. 122 (4) 3451-3460

- Hanson, C., Woo, L., Thomson, P. & Pattiaratchi, C (2017) Observing the Ocean with Gliders: Techniques for Data Visualization and Analysis. *Oceanography*. 30 (92) 222-227
- Harb Carraro, J. A (2017) Analysis of simple shear tests with cell pressure confinement. *Geomechanics and Geoengineering*. 12(3): 169-18012
- He, J., 3 Apr 2017, The EU Illegal, Unreported, and Unregulated Fishing Regulation Based on Trade and Market-Related Measures: Unilateralism or a Model Law? *Journal of International Wildlife Law and Policy*. 20 (2): 168-197
- Hein, K., Biscontin, G., Grajales, F., Aubeny, C. P. & Beemer, R. D., 2017, Exploring the Lateral Capacity of Squat Piles in Soft Clay Through Geotechnical Centrifuge Modelling: OCEANS 2017 19-22 June 2017. *IEEE Conference Publications*. IEEE, Institute of Electrical and Electronics Engineers, 17290812
- Hendriks, I. E., Olsen, Y. S. & Duarte, C. M (2017) Light availability and temperature, not increased Co₂, will structure future meadows of *Posidonia oceanica*. *Aquatic Botany*. 139: 32-36
- Hernawan, U. E., van Dijk, K. J., Kendrick, G. A., Feng, M., Biffin, E., Lavery, P. S. & McMahon, K (2017) Historical processes and contemporary ocean currents drive genetic structure in the seagrass *Thalassia hemprichii* in the Indo-Australian Archipelago. *Molecular Ecology*. 26 (4): 1008-1021
- Hernández, A., Sáez, A., Bao, R., Raposeiro, P. M., Trigo, R. M., Doolittle, S., Masque, P., Rull, V., Gonçalves, V., Vázquez-Loureiro, D., Rubio-Inglés, M. J., Sánchez-López, G. & Giralt, S (2017) The influences of the AMO and NAO on the sedimentary infill in an Azores Archipelago lake since ca. 1350 CE. *Global and Planetary Change*. 154: 61-74
- Hickey, S. M., Phinn, S. R., Callow, N. J., van Niel, K. P., Hansen, J. E. & Duarte, C. M (2017) Is Climate Change Shifting the Poleward Limit of Mangroves? *Estuaries and Coasts*. 40 (5): 1215-1226
- Hossain, M. S., Stainforth, R., Ngo, V. T., Cassidy, M. J., Kim, Y. H. & Jun, M. J (2017) Experimental investigation on the effect of spudcan shape on spudcan-footprint interaction. *Applied Ocean Research*. 69: 65-75
- Hu, P. & Cassidy, M. J (2017) Predicting jack-up spudcan installation in sand overlying stiff clay. *Ocean Engineering*. 146: 246-256
- Hu, P., Bienen, B. & Cassidy, M. J (2017) Combined loading capacity of a spudcan in clay after penetrating through a sand layer. *Geotechnique Letters*. 7 (1)
- Hu, Z., Li, X., Zhao, W. & Wu, X (2017) Nonlinear dynamics and impact load in float-over installation. *Applied Ocean Research*. 65: 60-7819
- Hughes, T. P., Kerry, J. T., Álvarez-Noriega, M., Álvarez-Romero, J. G., Anderson, K. D., Baird, A. H., Babcock, R. C., Beger, M., Bellwood, D. R., Berkemans, R., Bridge, T. C., Butler, I. R., Byrne, M., Cantin, N. E., Comeau, S., Connolly, S. R., Cumming, G. S., Dalton, S. J., Diaz-Pulido, G., Eakin, C. M. & 26 others, 15 Mar (2017) Global warming and recurrent mass bleaching of corals. *Nature*. 543 (7645) :373-377
- Huveneers, C., Meekan, M. G., Apps, K., Ferreira, L. C., Pannell, D. & Vianna, G (2017) The economic value of shark-diving tourism in Australia. *Reviews in Fish Biology and Fisheries*. 27 (3): 665-680
- Irvine, L. G., Thums, M., Hanson, C. E., McMahon, C. R. & Hindell, M. A (2017) Quantifying the energy stores of capital breeding humpback whales and income breeding sperm whales using historical whaling records. *Royal Society Open Science*. 4 (3)
- Jiang, H., Cheng, L., Draper, S. & An, H (2017) Prediction of the secondary wake instability of a circular cylinder with direct numerical simulation. *Computers and Fluids*. 149: 172-180
- Jiang, H., Cheng, L., Draper, S. & An, H (2017) Three-dimensional wake transition for a circular cylinder near a moving wall. *Journal of Fluid Mechanics*. 818: 260-287
- Jiang, H., Cheng, L., Draper, S. & An, H (2017) Two- and three-dimensional instabilities in the wake of a circular cylinder near a moving wall. *Journal of Fluid Mechanics*. 812: 435-462
- Jiang, M. J., Liu, J. & Sun, C (2017) An upgraded CFD-DEM investigation on the liquefaction mechanism of sand under cyclic loads. *Proceedings of the 7th International Conference on Discrete Element Methods*. Li, X., Feng, Y. & Mustoe, G. (eds.). Springer Science + Business Media, Vol. 188, p. 609-617 9 p. (Springer Proceedings in Physics)
- Jones, N. L. & Ivey, G. N (2017) Internal Waves. *Encyclopedia of Maritime and Offshore Engineering*. John Wiley & Sons, 12
- Journal of Geophysical Research: Oceans*. 122 (6) 4868-4885
- Jun, M., Kim, Y., Hossain, M. S., Cassidy, M. J., Hu, Y. & Sim, J (2017) Physical and numerical modelling of novel spudcans for easing footprintspudcan interaction issues.
- Keesing, J. K (2017) Rate of natural mortality in the sea star *Archaster angulatus* (Echinodermata Asteroidea). *Journal of the Marine Biological Association of the United Kingdom*.
- Kelley, J. L., Davies, P. M., Collin, S. P. & Grierson, P. F (2017) Morphological plasticity in a native freshwater fish from semiarid Australia in response to variable water flows. *Ecology and Evolution*. 7(16): 6595-6605
- Kelley, J. L., Grierson, P. F., Davies, P. M. & Collin, S. P (2017) Water flows shape lateral line morphology in an arid zone freshwater fish. *Evolutionary Ecology Research*. 18: 411-428

- Kelley, J. L., Taylor, I., Hart, N. S. & Partridge, J. C. (2017) Aquatic prey use countershading camouflage to match the visual background. *Behavioural Ecology*. 28 (5): 1314-1322
- Kendrick GA, Orth RJ, Statton J, Hovey R, Ruiz-Montoya L, Lowe R, Krauss SL, and (2017) Demographic and genetic connectivity: the role and consequences of reproduction, dispersal and recruitment in seagrasses. *Biological Reviews* 92(2): 921-938
- Kim, Y. H. & Hossain, M. S (2017) Dynamic installation, keying and diving of OMNI- Max anchors in clay. *Geotechnique*. 67 (1): 78-85
- Kimiaei, M., 2017, Effects of nonlinear riser-soil interaction model on fatigue design of steel catenary riser under random waves. *Proceedings of the ASME 36th International Conference on Ocean, Offshore and Arctic Engineering*. New York: ASME International, Vol. 5B, 9 p.V05BT04A043
- King, L., Bouazza, A., Gniel, J., Gaudin, C. & O'Loughlin, C., 2017, Centrifuge modelling of displacement piles and installation effects. *Proceedings of the Piled Foundations & Ground Improvement Technology for the Modern Building and Infrastructure Sector*. Hawthorne, NJ: Deep Foundations Institute, 8 p.
- Koh, K. X., Hossain, M. S. & Kim, Y (2017) Installation and monotonic pullout of a suction caisson anchor in calcareous silt. *Journal of Geotechnical and Geoenvironmental Engineering*. 143 (2)
- Kokkini, Z., Gerin, R., Poulain, P. M., Mauri, E., Pasaric, Z., Janekovic, I., Pasaric, M., Mihanovic, H. & Vilibic, I (2017) A multiplatform investigation of Istrian Front dynamics (north Adriatic Sea) in winter 2015. *Mediterranean Marine Science*. (18)2 :344-35411.
- Lafratta, A., Fromont, J., Speare, P. & Schonberg, C (2017) Coral bleaching in turbid water of north- Western Australia. *Marine and Freshwater Research*. 68 (1): 65-75
- Lantz, C. A., Carpenter, R. C., Comeau, S. & Edmunds, P. J (2017) Organisms composing an experimental coral reef community from Mo'orea, French Polynesia, exhibit taxon-specific net production: Net calcification ratios. *Frontiers in Marine Science*.
- Lee, J. M., Kim, Y., Hossain, M. S., Cassidy, M. J., Hu, Y. & Sim, J. U., 2017. Effectiveness of skirted spudcans in mitigating punch-through in sand-over-clay deposits p. 956-962
- Le Houedec, S., McCulloch, M., Trotter, J. & Rankenburg, K (2017) Conodont apatite $\delta^{88}/86\text{Sr}$ and $\delta^{44}/40\text{Ca}$ compositions and implications for the evolution of Palaeozoic to early Mesozoic seawater. *Chemical Geology*. 453: 55-65
- Le Nohaïc, M., Ross, C. L., Cornwall, C. E., Comeau, S., Lowe, R., McCulloch, M. T. & Schoepf, V (2017) Marine heatwave causes unprecedented regional mass bleaching of thermally resistant corals in northwestern Australia. *Scientific Reports*. 7 (1)
- Letessier, T. B., Bouchet, P. J. & Meeuwig, J. J (2017) Sampling mobile oceanic fishes and sharks: implications for fisheries and conservation planning. *Biological Reviews*. 92 (2) 627–646
- Li, L., Li, J., Huang, J., Liu, H. & Cassidy, M. J (2017) The bearing capacity of spudcan foundations under combined loading in spatially variable soils. *Engineering Geology*. 227: 139-148
- Lim, K., Cassidy, M. J., Li, A. J. & Lyamin, A. V (2017) Mean parametric monte carlo study of fill slopes. *International Journal of Geomechanics*. 17 (4) *Limnology and Oceanography*. 6 (4): 1436-1450
- Lin, G., Li, P., Liu, J. & Zhang, P (2017) Transient heat conduction analysis using the NURBS-enhanced scaled boundary finite element method and modified precise integration method. *Acta Mechanica Solida Sinica*. 30 (5): 445-464
- Lindley, J. & Techera, E. J (2017) Overcoming complexity in illegal, unregulated and unreported fishing to achieve effective regulatory pluralism. *Marine Policy*. 81: 71-79
- Lisney, T. J., Yopak, K. E., Camilieri-Asch, V. & Collin, S. P (2017) Ontogenetic Shifts in Brain Organization in the Bluespotted Stingray *Neotrygon kuhlii* (Chondrichthyes: Dasyatidae). *Brain, Behavior and Evolution*.
- Lovelock, C. E., Atwood, T., Baldock, J., Duarte, C. M., Hickey, S., Lavery, P. S., Masque, P., Macreadie, P. I., Ricart, A. M., Serrano, O. & Steven, A (2017) Assessing the risk of carbon dioxide emissions from blue carbon ecosystems. *Frontiers in Ecology and the Environment*. 15 (5):257-265
- Lovelock, C. E., Feller, I. C., Reef, R., Hickey, S. & Ball, M. C (2017) Mangrove dieback during fluctuating sea levels. *Scientific Reports*. 7 (1)
- Lovelock CE, Atwood T, Baldock J, Duarte CM, Hickey S, Lavery PS, Masque P, Macreadie PI, Ricart AM, Serrano O, and Steven A (2017) Assessing the risk of CO2 emissions from blue carbon ecosystems. *Frontiers in Ecology and the Environment* 15: 257–265
- Lozano-Montes, H. M., Keesing, J. K., Grol, M. G., Haywood, M. D. E., Vanderklift, M. A., Babcock, R. C. & Bancroft, K (2017) Limited effects of an extreme flood event on corals at Ningaloo Reef. *Estuarine, Coastal and Shelf Science*. 191: 234-238
- Ma, H., Zhou, M., Hu, Y. & Hossain, M (2017) Effects of cone tip roughness, in-situ stress anisotropy and strength inhomogeneity on CPT data interpretation in layered marine clays: numerical study. *Engineering Geology*. (227): 12-22
- Mahmood, A., Bennamoun, M., An, S., Sohel, F., Boussaid, F., Hovey, R., Kendrick, G. & Fisher, R., 2017, Deep learning for coral classification. *Handbook of Neural Computation*. Samui, P., Roy, S. S. & Balas, V. E. (eds.). London: Academic Press, p. 383-401

- Maxwell, D. J., Partridge, J. C., Roberts, N. W., Boonham, N. & Foster, G. D (2017) The effects of surface structure mutations in *Arabidopsis thaliana* on the polarization of reflections from virus-infected leaves. *PLoS One*. 12 (3)
- Mayol, E., Jiménez, M. A., Herndl, G. J., Duarte, C. M. & Arrieta, J. M (2017) Corrigendum: Resolving the abundance and air-sea fluxes of airborne microorganisms in the North Atlantic Ocean [Front. Microbiol. 2014, 5, 557]. Doi: 10.3389/fmicb.2014.00557. *Frontiers in Microbiology*. 8
- Mazarrasa, I., Marbà, N., Garcia-Orellana, J., Masque Barri, P., Arias-Ortiz, A. & Duarte, C. M (2017) Effect of environmental factors (wave exposure and depth) and anthropogenic pressure in the C sink capacity of *Posidonia oceanica* meadows.
- Mazarrasa, I., Marbà, N., Garcia-Orellana, J., Masque Barri, P., Arias-Ortiz, A. & Duarte Quesada, C (2017) Dynamics of carbon sources supporting burial in seagrass sediments under increasing anthropogenic pressure. *Limnology and Oceanography*. 62 (4): 1451-1465
- McCarthy, D. T., Jovanovic, D., Lintern, A., Teakle, I., Barnes, M., Deletic, A., Coleman, R., Rooney, G., Prosser, T., Coutts, S., Hipsey, M. R., Bruce, L. C. & Henry, R (2017) Source tracking using microbial community fingerprints: Method comparison with hydrodynamic modelling. *Water Research*. 109: 253-265
- McCulloch, M. T., D'Olivo, J. P., Falter, J., Holcomb, M. & Trotter, J. A (2017) Coral calcification in a changing world and the interactive dynamics of pH and DIC upregulation. *Nature Communications*. 8
- McLean, D. L., Partridge, J. C., Bond, T., Birt, M. J., Bornt, K. R. & Langlois, T. J (2017) Using industry ROV videos to assess fish associations with subsea pipelines. *Continental Shelf Research*. 141: 76-97
- McMahon, C. R., Thums, M., Bradshaw, M., Busby, S., Chapple, V., Evans, M., Goodlich, S., Holland, C., Raudino, H., Rebuck, P. & Hindell, M. A (2017) It's a girl! A female southern elephant seal born in Western Australia. *Australian Journal of Zoology*. 65 (3) 179-182
- McMahon, K., Evans, R., van Dijk, K. J., Hernawan, U. E., Kendrick, G., Lavery, P. S., Lowe, R., Puotinen, M. & Waycott, M (2017) Disturbance is an important driver of clonal richness in tropical seagrasses. *Frontiers in Plant Science*. 8 (14)
- Meekan, M. G., Duarte, C. M., Fernández-Gracia, J., Thums, M., Sequeira, A. M. M., Harcourt, R. & Eguíluz, V. M (2017) The Ecology of Human Mobility. *Trends in Ecology and Evolution*. 32 (3) 198-210
- Miller, B. P., Sinclair, E. A., Menz, M. H. M., Elliott, C. P., Bunn, E., Commander, L. E., Dalziell, E., David, E., Davis, B., Erickson, T. E., Golos, P. J., Krauss, S. L., Lewandrowski, W., Mayence, C. E., Merino-Martin, L., Merritt, D. J., Nevill, P. G., Phillips, R. D., Ritchie, A. L., Ruoss, S. & 1 others (2017) A framework for the practical science necessary to restore sustainable, resilient, and biodiverse ecosystems. *Restoration Ecology*. 25(4): 605-617
- Milne, I. & Draper, S (2017) RiverLab: Using the Swan River as a large wave basin and ocean analogue for innovative offshore engineering
- Milne, I., Sharma, R. & Flay, R (2017) The structure of turbulence in a rapid tidal flow. *Proceedings of the Royal Society of London Series A*.
- Moore, B. A., Tyrell, L. P., Kamlar, J. M., Collin, S., Dominy, N. J., Hall, M. I., Heesy, C. P., Lisney, T. J., Loew, E. R., Moritz, G. L., Nava, S. S., Warrant, E., Shaw, K. & Fernandez-Juricic, E (2017) Structure and function of regional specializations in the vertebrate retina. *Evolution of nervous systems: The evolution of the nervous systems in nonmammalian vertebrates*. Kaas, J. H. & Striedter, G. (eds.). 2nd ed. Oxford, UK: Academic Press, Vol. 1 351-372
- Moore, C., Cappel, M., Radford, B. & Heyward, A (2017) Submerged oceanic shoals of north Western Australia are a major reservoir of marine biodiversity. *Coral Reefs*. 36 (3) 719-734
- Muller, H., Van Rooijen, A., Idier, D., Pedreros, R. & Rohmer, J (2017) Assessing storm impact on a French coastal dune system using morphodynamic modelling. *Journal of Coastal Research*. 33(2): 254-272
- Nedelec, S. L., Radford, A. N., Pearl, L., Nedelec, B., McCormick, M. I., Meekan, M. G. & Simpson, S. D (2017) Motorboat noise impacts parental behaviour and offspring survival in reef fish. *Proceedings of the Royal Society B: Biological Sciences*. 284
- Nicolai, G., Ibsen, L. B., O'Loughlin, C. D. & White, D. J (2017) Quantifying the increase in lateral capacity of monopiles in sand due to cyclic loading. *Geotechnique Letters*. 7 (3)245-252
- Niemann, C., Tian, Y., O'Loughlin, C., Cassidy, M. J. & Reul, O (2017) Response of piles under cyclic lateral loading – centrifuge tests. *Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering. Seoul: International Society for Soil Mechanics and Geotechnical Engineering*. 2317-2320
- Ocean Glider Observations Around Australia. Pattiaratchi, C., Woo, L. M., Thomson, P., Hong, K. K. & Stanley, D (2017) Ocean Glider Observations Around Australia. *Oceanography*. 30 (2) 90-91 *Research output: Contribution to journal › Editorial*
- Ogawa, Y., Ribi, W., Zeil, J. & Hemmi, J. M (2017) Regional differences in the preferred e-vector orientation of honeybee ocellar photoreceptors. *Journal of Experimental Biology*. 220 (9) 1701-1708
- Oh, B. Z. L., Sequeira, A. M. M., Meekan, M. G., Ruppert, J. L. W. & Meeuwig, J. J (2017) Predicting occurrence of juvenile shark habitat to improve conservation planning. *Conservation Biology*. 31(3) 635-645

- Oh, Z. L. B., Thums, M., Babcock, R., Meeuwig, J. J., Pillans, R. D., Speed, C. W. & Meekan, M. G (2017) Contrasting patterns of residency and space use of coastal sharks within a communal shark nursery. *Marine and Freshwater Research*. 68 (8): 1501-1517
- Ong, J. J. L., Rountrey, A. N., Marriott, R. J., Newman, S. J., Meeuwig, J. J. & Meekan, M. G (2017) Cross-continent comparisons reveal differing environmental drivers of growth of the coral reef fish, *Lutjanus bohar*. *Coral Reefs*. 36 (1): 195-206
- Orszaghova, J., Wolgamot, H., Draper, S. & Rafiee, A., 2017, Non-linear behaviour of an idealised submerged WEC with coulomb damping. *Proceedings of the 12th European Wave and Tidal Energy Conference (EWTEC)*. Cork, Ireland: Technical Committee of the European Wave and Tidal Energy Conference. 1088-1-1088-9
- Oyafuso, Z. S., Drazen, J. C., Moore, C. H. & Franklin, E. C (2017) Habitat-based species distribution modelling of the Hawaiian deepwater snapper-grouper complex. *Fisheries Research*. 195: 19-27
- O'Beirne, C., O'Loughlin, C. & Gaudin, C (2017) Assessing the penetration resistance acting on a dynamically installed anchor in normally consolidated and overconsolidated clay. *Canadian Geotechnical Journal*. 54 (1): 1-17
- O'Beirne, C., O'Loughlin, C. D. & Gaudin, C (2017) A release-to-rest model for dynamically installed anchors. *Journal of Geotechnical and Geoenvironmental Engineering*. 143 (9)
- O'Loughlin, C. D., White, D. J. & Stanier, S. A (2017) Plate anchors for mooring floating facilities - a view towards unlocking cost and risk benefits Offshore. *Site Investigation and Geotechnics 2017 Conference Proceedings*. United Kingdom: Society for Underwater Technology, Vol. 2. 978-986
- Page, C. A., Field, S. N., Pollock, F. J., Lamb, J. B., Shedrawi, G. & Wilson, S. K (2017) Assessing coral health and disease from digital photographs and in situ surveys. *Environmental Monitoring and Assessment*. 189 (1): 18
- Palanques, A., Lopez, L., Guillén, J., Puig, P. & Masque Barri, P., 1 Feb 2017. Decline of trace metal pollution in the bottom sediments of the Barcelona City continental shelf (NW Mediterranean). *Science of the Total Environment*. 579, p. 755-767 13 p
- Pannell, D. J. (2017) Economic perspectives on nitrogen in farming systems: Managing trade-offs between production, risk and the environment. *Soil Research*. 55 (5-6): 473-478
- Paradis, S., Puig, P., Masque Barri, P., Juan-Diaz, X., Martin, J. & Palanques, A (2017) . Bottom-trawling along submarine canyons impacts deep sedimentary regimes. *Scientific Reports*. 7(11)43332
- Pecl, G. T. , Araujo, M. B. , Bell, J. D. , Blanchard, J. , Bonebrake, T. C. , Chen, I-C. , Clark, T. D. , Colwell, R. K. , Danielsen, F. , Evengard, B. , Falconi, L. , Ferrier, S. , Frusher, S. , Garcia, R. A. , Griffis, R. B. , Hobday, A. J. , Janion-Scheepers, C. , Jarzyna, M. A. , Jennings, S. , Lenoir, J. & 21 others (2017) Biodiversity redistribution under climate change: Impacts on ecosystems and human well-being. *Science*. 355
- Peharda, M., Thébault, J., Markulin, K., Schöne, B. R., Janeković, I. & Chauvaud, L (2017) Contrasting shell growth strategies in two Mediterranean bivalves revealed by oxygen- isotope ratio geochemistry: The case of *Pecten jacobaeus* and *Glycymeris pilosa*. *Chemical Geology*.
- Pineda, M. C., Strehlow, B., Sternel, M., Duckworth, A., Haan, J. D., Jones, R. & Webster, N. S (2017) Effects of sediment smothering on the sponge holobiont with implications for dredging management. *Scientific Reports*. 7 (1) 5156
- Pomeroy, A. W. M., Lowe, R. J., Ghisalberti, M., Storlazzi, C., Symonds, G. & Roelvink, D (2017) Sediment transport in the presence of large reef bottom roughness. *Journal of Geophysical Research: Oceans*. 122 (2): 1347-1368
- Puigcorb , V., Roca-Mart , M., Masqu , P., Benitez-Nelson, C., Rutgers van der Loeff, M., Bracher, A. & Moreau, S., 1 Nov 2017. Latitudinal distributions of particulate carbon export across the North Western Atlantic Ocean. *Deep-Sea Research Part I: Oceanographic Research Papers*. 129: 116-130
- Puigcorb , V., Roca-Mart , M., Masqu , P., Benitez-Nelson, C. R., Rutgers v. d. Loeff, M., Laglera, L. M., Bracher, A., Cheah, W., Strass, V. H., Hoppema, M., Santos-Echeand , J., Hunt, B. P. V., Pakhomov, E. A. & Klaas, C (2017) Particulate organic carbon export across the Antarctic Circumpolar Current at 10 E: Differences between north and south of the Antarctic Polar Front. *Deep-Sea Research Part II: Topical Studies in Oceanography*. 138: 86-101
- Ragni, R., Bienen, B., Cassidy, M. J. & Ma in, D. 2017. Effects of consolidation on the undrained combined VHM capacity of spudcans
- Ragni, R., Bienen, B., Wang, D., Ma in, D. & Cassidy, M. J (2017) Numerical modelling of the effects of consolidated on the undrained spudcan capacity under a combined loading in silty clay. *Computers and Geotechnics*. 86: 33-51.
- Rahmani, H. & Bennamoun, M., 22 Dec 2017, Learning Action Recognition Model from Depth and Skeleton Videos. *Proceedings of the 2017. IEEE International Conference on Computer Vision, ICCV 2017*. IEEE, Institute of Electrical and Electronics Engineers, Vol. 2017-October, p. 5833-5842 10 p. 8237883
- Raina, J-B., Clode, P. L., Cheong, S., Bougoure, J., Kilburn, M. R., Reeder, A., Foret, S., Stat, M., Beltran, V., Thomas-Hall, P., Topiolas, D., Motti, C. M., Gong, B., Pernice, M., Marjo, C. E., Seymour, J. R., Willis, B. L. & Bourne, D. G (2017) Subcellular tracking reveals the location of dimethylsulfoniopropionate in microalgae and visualises its uptake by marine bacteria. *eLife*. 6 (17)

- Ramus, A. P., Silliman, B. R., Thomsen, M. S. & Long, Z. T (2017) An invasive foundation species enhances multifunctionality in a coastal ecosystem. *Proceedings of the National Academy of Sciences of the United States of America*. 114 (32):8580-8585
- Randolph, M (2017) Review of: Tall Building Foundation Design Australian. *Geomechanics*. 52 (4): 119-119
- Randolph, M. F. & Gaudin, C (2017) Genesis of the national centrifuge facility- A 30 year perspective *Australian Geomechanics Journal*. 52 (2): 1-14
- Rayson, M. D., Gross, E. S., Hetland, R. D. & Fringer, O. B (2017) Using an isohaline flux analysis to predict the salt content in an unsteady estuary. *Journal of Physical Oceanography*. 47 (11): 2811-2828
- Ricardo, G. F., Jones, R. J., Nordborg, M. & Negri, A. P (2017) Settlement patterns of the coral *Acropora millepora* on sediment-laden surfaces. *Science of the Total Environment*. 609: 277-288
- Rijnsdorp, D. P., Hansen, J. & Lowe, R (2017) A phase-resolving wave model to simulate the interactions between waves and wave energy converters. *Australasian Coasts & Ports 2017: Working with Nature*. Baldock, T. (ed.). Barton, ACT: Engineers Australia, p. 933-937
- Rijnsdorp, D. P., Hansen, J. & Lowe, R., 2017. A Phase-resolving wave model to simulate the interactions between waves and wave energy converters. *Australasian*
- Rijnsdorp, D. P., Smit, P. B., Zijlema, M. & Reniers, A. J. H. M (2017) Efficient non-hydrostatic modelling of 3D wave- induced currents using a subgrid approach. *Ocean Modelling*. 116: 118-133
- Risandi, J., Hansen, J. & Lowe, R (2017) Wave dynamics within a reef-fringed pocket beach. *Australasian Coasts & Ports 2017: Working with Nature*. Baldock, T. (ed.). Barton, ACT: Engineers Australia, p. 938-942
- Robson, N. A., Hetzel, Y., Whiting, S., Wijeratne, S., Pattiaratchi, C. B., Withers, P. & Thums, M (2017) Use of particle tracking to determine optimal release dates and locations for rehabilitated neonate sea turtles. *Frontiers in Marine Science*.
- Rodellas, V., Garcia-Orellana, J., Trezzi, G., Masque Barri, P., Stieglitz, T. C., Bokuniewicz, H., Cochran, J. K. & Berdalet, E. (2017) Using the radium quartet to quantify submarine groundwater discharge and porewater exchange. *Geochimica et Cosmochimica Acta*. 196: 58-73
- Rodríguez, J. P., Fernández-Gracia, J., Thums, M., Hindell, M. A., Sequeira, A. M. M., Meekan, M. G., Costa, D. P., Guinet, C., Harcourt, R. G., McMahon, C. R., Muelbert, M., Duarte, C. M. & Eguíluz, V. M (2017) Big data analyses reveal patterns and drivers of the movements of southern elephant seals. *Scientific Reports*. 7 (1)
- Rogers, A. A. & Burton, M. P (2017) Social preferences for the design of biodiversity offsets for shorebirds in Australia. *Conservation Biology*. 31 (4). 828-836
- Ross, C. L., Falter, J. L. & McCulloch, M. T. (2017) Active modulation of the calcifying fluid carbonate chemistry ($\delta^{11}\text{B}$, B/Ca) and seasonally invariant coral calcification at sub-Tropical limits. *Scientific Reports*. 7 (1)
- Rothman, M. D., Mattio, L., Anderson, R. J. & Bolton, J. J (2017) A phylogeographic investigation of the kelp genus *Laminaria* (Laminariales, Phaeophyceae), with emphasis on the South Atlantic Ocean. *Journal of Phycology*. (53) 4:778-789
- Rull, V., Lara, A., Jesus Rubio-Ingles, M., Giral, S., Goncalves, V., Raposeiro, P., Hernandez, A., Sanchez-Lopez, G., Vazquez-Loureiro, D., Bao, R., Masque Barri, P. & Saez, A (2017) Vegetation and landscape dynamics under natural and anthropogenic forcing on the Azores Islands: A 700-year pollen record from the Sao Miguel Island. *Quaternary Science Reviews*. 159 : 155-168
- Ryan, L. A., Hemmi, J. M., Collin, S. P. & Hart, N. S (2017) Electrophysiological measures of temporal resolution, contrast sensitivity and spatial resolving power in sharks. *Journal of Comparative Physiology A: Neuroethology, Sensory, Neural, and Behavioral Physiology*.(203) 3: 197-210
- Salas, C. A., Yopak, K. E., Lisney, T. J., Potter, I. C. & Collin, S. P (2017) The Central Nervous System of Jawless Vertebrates: Encephalization in Lampreys and Hagfishes. *Brain, Behavior and Evolution*. 89 (1) 33-47
- Salim, S., Pattiaratchi, C., Tinoco, R., Coco, G., Hetzel, Y., Wijeratne, S. & Jayaratne, R (2017) The influence of turbulent bursting on sediment resuspension under unidirectional currents. *Earth Surface Dynamics*. 5(3): 399-415
- Salmon, S., Hipsey, M., Wake, G., Ivey, G. & Oldham, C (2017) Quantifying lake water quality evolution: Coupled geochemistry, hydrodynamics, and aquatic ecology in an acidic pit lake. *Environmental Science & Technology*. 51(17) 9864–9875
- Sasmal, K., Masunaga, E., Webb, A., Fringer, O. B., Gross, E. S., Rayson, M. D. & Yamazaki, H (2017) A three-dimensional numerical study of river plume mixing processes in Otsuchi Bay, Japan. *Journal of Oceanography*. 74 (2): 169-186
- Schlegel, R. W., Oliver, E. C. J., Wernberg, T. & Smit, A. J (2017) Nearshore and offshore co-occurrence of marine heatwaves and cold-spells. *Progress in Oceanography*. 151:189-205
- Schoepf, V., Hu, X., Holcomb, M., Cai, W. J., Li, Q., Wang, Y., Xu, H., Warner, M. E., Melman, T. F., Hoadley, K. D., Pettay, D. T., Matsui, Y., Baumann, J. H. & Grottoli, A. G (2017) Coral calcification under environmental change: a direct comparison of the alkalinity anomaly and buoyant weight techniques. *Coral Reefs*. 36 (1): 13-25

- Schoepf, V., Jury, C. P., Toonen, R. J. & McCulloch, M. T. (2017) Coral calcification mechanisms facilitate adaptive responses to ocean acidification. *Proceedings of the Royal Society of London: series B*. 284 (9): 2017-2117
- Schönberg, C. H. L. (2017) Culture, demography and biogeography of sponge science: From past conferences to strategic research? *Marine Ecology*. 38 (2)
- Schönberg, C. H. L., H., F. J. K., M., C-S., A., T. & M., W. (2017) Bioerosion: the other ocean acidification problem. *ICES Journal of Marine Science*. 74(4): 895–925
- Shedrawi, G., Falter, J. L., Friedman, K. J., Lowe, R. J., Pratchett, M. S., Simpson, C. J., Speed, C. W., Wilson, S. K. & Zhang, Z. (2017) Localised hydrodynamics influence vulnerability of coral communities to environmental disturbances. *Coral Reefs*. 36 (3): 861-872
- Shen, Z., Feng, X. & Gourvenec, S. (2017) Effect of interface condition on the undrained capacity of subsea mudmats under six-degree-of-freedom loading. *Geotechnique*. 67(4) 338-349
- Sinclair, E. A. & Kendrick, G. A. (2017) New beginnings- bottleneck in the cycle of seagrass life. *For People & Plants*, 98 :24-26
- Smale, D. A., Wernberg, T. & Vanderklift, M. A. (2017) Regional-scale variability in the response of benthic macroinvertebrate assemblages to a marine heatwave. *Marine Ecology Progress Series*. 568: 17-30
- South, P. M., Floerl, O., Forrest, B. M. & Thomsen, M. S. (2017) A review of three decades of research on the invasive kelp *Undaria pinnatifida* in Australasia: An assessment of its success, impacts and status as one of the world's worst invaders. *Marine Environmental Research*. 131. 243-257
- Spiller, L., Grierson, P. F., Davies, P. M., Hemmi, J., Collin, S. P. & Kelley, J. L. (2017) Functional diversity of the lateral line system among populations of a native Australian freshwater fish. *Journey of experimental Biology*. 220 (12) 2265-2276
- Stacey, N., Acciaiolli, G., Clifton, J. & Steenbergen, D., 2017. Impacts of marine protected areas on livelihoods and food security of the Bajau as an indigenous migratory people in maritime Southeast Asia. *Marine protected areas: Interactions with fishery livelihoods and food security*. Westlund, L., Charles, A., Garcia, S. M. & Sanders, J. (eds.). Rome: Food and Agriculture Organization of the United Nations, 113-126 (FAO Fisheries and Aquaculture Technical Papers; vol. 603)
- Stanisic, D., Efthymiou, M., Kimiaei, M. & Zhao, W., 2017, Evaluation of conventional methods of establishing extreme mooring design loads. *Proceedings of the ASME 36th International Conference on Ocean, Offshore and Arctic Engineering*. United States: ASME International, Vol. 3A, 9 p. V03AT02A017
- Stapelfeldt, M., Bienen, B. & Grabe, J. (2017) Advanced approaches for coupled deformation-seepage-analyses of suction caisson installation. *Offshore Geotechnics; Torgeir Moan Honoring Symposium*. ASME International, Vol. 9
- Statton, J., Sellers, R., Dixon, K. W., Kilminster, K., Merritt, D. J. & Kendrick, G. A. (2017) Seed dormancy and germination of *Halophila ovalis* mediated by simulated seasonal temperature changes. *Estuarine, Coastal and Shelf Science*. 198: 156-162
- Statton J, Ruiz-Montoya L, Orth RJ, Dixon KW, and Kendrick GA (2017) Identifying critical recruitment bottlenecks limiting seedling establishment in a degraded seagrass ecosystem. *Scientific Reports* 7: 14786
- Statton J, Sellers R, Dixon KW, Kilminster K, Merritt DJ and Kendrick GA (2017) Seed dormancy and germination of *Halophila ovalis* mediated by simulated seasonal temperature changes. *Estuarine, Coastal and Shelf Science* 198: 156-162
- Steenbergen, D. J., Clifton, J., Visser, L. E., Stacey, N. & McWilliam, A. (2017) Understanding influences in policy landscapes for sustainable coastal livelihoods. *Marine Policy*. 82: 181-188
- Strydom, S., McMahon, K. & Lavery, P. S. (2017) Response of the seagrass *Halophila ovalis* to altered light quality in a simulated dredge plume. *Marine Pollution Bulletin*. 121(1-2): 323-330
- Strydom, S., McMahon, K., Kendrick, G. A., Statton, J. & Lavery, P. S. (2017) Seagrass *Halophila ovalis* is affected by light quality across different life history stages. *Marine Ecology Progress Series*. 572: 103-116
- Strydom, S.; McMahon, K.; Kendrick, G.; Statton, J.; Lavery, P. S. (2017) seagrass halophile ovalis is affected by light quality across different life history stages. *Marine Ecology Progress Series* 572 :103-116
- Stuart-Smith, R. D., Edgar, G. J., Barrett, N. S., Bates, A. E., Baker, S. C., Bax, N. J., Becerro, M. A., Berkhout, J., Blanchard, J. L., Brock, D. J., Clark, G. F., Cooper, A. T., Davis, T. R., Day, P. B., Duffy, E., Holmes, T. H., Howe, S. A., Jordan, A., Kininmonth, S., Knott, N. A. & 6 others (2017) Assessing national biodiversity trends for rocky and coral reefs through the integration of citizen science and scientific monitoring programs. *Bioscience*. 67(2): 134-146
- Sun, L., Meng, L., Guo, W., Feng, X., Nie, W., Chu, J. & Hou, J. (2017) Pilot tests on methods to form working platform on soft clay. *Proceedings of the Institution of Civil Engineers: Geotechnical Engineering*. 170 (5) 445-454
- Sun, Y. & Zhang, X. (2017) A second order analytical solution of focused wave group interacting with a vertical wall. *International Journal of Naval Architecture and Ocean Engineering*. 9 (2):160-176
- Tarasov, B., 2017, *ISRM European Rock Mechanics Symposium EUROCK 2017*. Microcracking Process as a Base of Shear Rupture Mechanism of Extreme Dynamics. Konicek, P., Soucek, K. & Konecny, P. (eds.). Elsevier, Vol. 191, p. 681-688 8 p. (Procedia Engineering)

- Tarasov, B., Guzev, M., Sadovskiy, V. & Losev, A., 2017, Fan-hinged shear as a unique mechanism of dynamic shear ruptures. *Materials Structure and Micromechanics of Fracture VIII*. Sandera, P. (ed.). Trans Tech Publications, Vol. 258 SSP, p. 165-168 4 p. (Solid State Phenomena; vol. 258 SSP)
- Tarasov, B. G. & Sadovskii, V. M (2017) NAA 2016: Mathematical modeling of fan-structure shear ruptures generated in hard rocks. *Numerical Analysis and Its Applications*. Dimov, I., Faragó, I. & Vulkov, L. (eds.). Switzerland: Springer, p. 648-656 9 p.
- Tarasov, B. G. & Stacey, T. R (2017) Features of the Energy Balance and Fragmentation Mechanisms at Spontaneous Failure of Class I and Class II Rocks. *Rock Mechanics and Rock Engineering*. 50 (10) 2563–2584
- Tarasov, B. G., 2017, Deep mining 2017 Shear ruptures of extreme dynamics in laboratory and natural conditions. *Proceedings of the Eighth International Conference on Deep and High Stress Mining*. Wesseloo, J. (ed.). Australia: Australian Centre for Geomechanics, p. 3-50
- Tarasov, B. G., Guzev, M. A., Sadovskii, V. M. & Cassidy, M. J (2017) Modelling the mechanical structure of extreme shear ruptures with friction approaching zero generated in brittle materials. *International Journal of Fracture*. 207 (1): 87-97
- Tarasov, B. G., Sadovskii, V. M. & Sadovskaya, O. V (2017) Analysis of Fan Waves in Laboratory Model Simulating the Propagation of Shear Ruptures in Rocks. *Journal of Applied Mathematics and Technical Physics*. 58 (7): 1139-1152
- Tarasov, B. G., Sadovskii, V. M. & Sadovskaya, O. V (2017) NAA 2016: On the numerical analysis of fan-shaped waves. *Numerical Analysis and Its Applications*. Dimov, I., Faragó, I. & Vulkov, L. (eds.). Springer. 657-664 8 (Lecture Notes in Computer Science ; vol. 10187)
- Techera, E (2017) Species-based conservation. *Biodiversity and Nature Protection Law*. Morgera, E. & Razzaque, J. (eds.). Cheltenham: Edward Elgar Publishing, p. 97-109 (Elgar encyclopedia of environmental law; vol. 3)
- Teng, Y., Stanier, S. A. & Gourvenec, S. M (2017) Synchronised multi-scale image analysis of soil deformations. *International Journal of Physical Modelling in Geotechnics*. 17 (1) 53-71
- Thomas, L., Kennington, W. J., Evans, R., Kendrick, G. A. & Stat, M (2017) Restricted gene flow and local adaptation highlight the vulnerability of high-latitude reefs to rapid environmental change. *Global Change Biology*. 23 (6): 2197-2205
- Thums, M., Waayers, D., Huang, Z., Pattiaratchi, C., Bernus, J. & Meekan, M (2017) Environmental predictors of foraging and transit behaviour in flatback turtles *Natator depressus*. *Endangered Species Research*. 32: 333-349
- Tickler, D. M., Letessier, T. B., Koldewey, H. J. & Meeuwig, J. J (2017) Drivers of abundance and spatial distribution of reef-associated sharks in an isolated atoll reef system. *PLoS One*. 12 (5)
- Tom, J. G. & White, D., 2017, Effect of Drainage on Upheaval Buckling Susceptibility of Buried Pipelines. *36th International Conference on Ocean, Offshore and Arctic Engineering: ASME2017*. United States: ASME International, Vol. 9, 7 p. OMAE2017-61046
- Tom, J. G., O'Loughlin, C. D., White, D., Haghighi, A. & Maconochie, A (2017) The effect of radial fins on the uplift resistance of buried pipelines. *Geotechnique Letters*. 7 (1)
- Tong, F., Cheng, L., Xiong, C., Draper, S., An, H. & Lou, X (2017) Flow regimes for a square cross-section cylinder in oscillatory flow. *Journal of Fluid Mechanics*. 813: 85-109
- Trezzi, G., Garcia-Orellana, J., Rodellas, V., Masque Barri, P., Garcia-Solsona, E. & Andersson, P. S., 1 Mar 2017. Assessing the role of submarine groundwater discharge as a source of Sr to the Mediterranean Sea. *Geochimica et Cosmochimica Acta*. 200, p. 42-54 13 p
- Tuckett, C., Wernberg, T., Fromont, J. & Wernberg, T (2017) Expansion of corals on temperate reefs: direct and indirect effects of marine heatwaves. *Coral Reefs*. 36 (3). 947-956
- Ullah, S. N., Stanier, S., Hu, Y. & White, D (2017) Foundation punch-through in clay with sand: analytical modelling. *Géotechnique*. 67 (8): 672-690
- Ullah, S. N., Stanier, S., Hu, Y. & White, D Oct (2017) Foundation punch-through in clay with sand: centrifuge modelling. *Geotechnique*. 67 (10): 870-889
- Valentine, L. E., Bretz, M., Ruthrof, K., Fisher, R., St J. Hardy, G. E. E. & Fleming, P. A. A (2017) Scratching beneath the surface: bandicoot bioturbation contributes to ecosystem processes. *Austral Ecology*. 42 (3) 265-276
- van Hees, D. H., Olsen, Y. S., Wernberg, T., Van Alstyne, K. L. & Kendrick, G. A (2017) Phenolic concentrations of brown seaweeds and relationships to nearshore environmental gradients in Western Australia. *Marine Biology*. 164 (4)
- van Rooijen, A., Hansen, J., Ureña, A. S. & da Silva Costa, L (2017) Application of XBeach to model erosion of a beach fronted by seagrass. *Australasian Coasts & Ports 2017: Working with Nature*. Baldock, T. (ed.). Barton, ACT: Engineers Australia, p. 1098-1103
- Voermans, J. J., Ghisalberti, M. & Ivey, G. N (2017). The variation of flow and turbulence across the sediment-water interface. *Journal of Fluid Mechanics*. 824: 413-437

- Vulpe, C., Gourvenec, S. M. & Cornelius, A. F (2017) Effect of embedment on consolidated undrained capacity of skirted circular foundations in soft clay under planar loading. *Canadian Geotechnical Journal*. 54 (2):158-172
- Wadey, M., Brown, S., Nicholls, R. J. & Haigh, I (2017) Coastal flooding in the Maldives: an assessment of historic events and their implications. *Natural Hazards*. 89 (1): 131–159
- Wandres, M., Pattiaratchi, C. & Hemer, M. A (2017) Projected changes of the southwest Australian wave climate under two atmospheric greenhouse gas concentration pathways. *Ocean Modelling*. 117: 70-87
- Wandres, M., Wijeratne, E. M. S., Cosoli, S. & Pattiaratchi, C (2017) The Effect of the Leeuwin Current on Offshore Surface Gravity Waves in Southwest Western Australia. *Journal of Geophysical Research: Oceans*. 122 (11): 9047-9067
- Ward, I. & Veth, P (2017) To the islands: the archaeology of the archipelagos of NW Australia and its implications for drowned cultural landscapes. *Under the sea: archaeology and palaeolandscapes of the Continental Shelf*. Bailey, G. N., Harff, J. & Sakellariou, D. (eds.). Cham, Switzerland: Springer, p. 375-387 (Coastal Research Library; vol. 20)
- Warrington, R. E., Hart, N. S., Potter, I. C., Collin, S. P. & Hemmi, J. M (2017) In Retinal temporal resolution and contrast sensitivity in the parasitic lamprey *Mordacia mordax* and its non-parasitic derivative *Mordacia praecox*. *Journal of Experimental Biology*. 220(7): 1245-1255
- Wells, F. E., Keesing, J. K. & Brearley, A (2017) Recovery of marine Conus (Mollusca: Caenogastropoda) from imposex at Rottneest Island, Western Australia, over a quarter of a century. *Marine Pollution Bulletin*. 123 (1-2): 182-187
- Wenger, A. S., Harvey, E., Wilson, S., Rawson, C., Newman, S. J., Clarke, D., Saunders, B. J., Browne, N., Travers, M. J., Mcilwain, J. L., Erfteemeijer, P. L. A., Hobbs, J. P. A., Mclean, D., Depczynski, M. & Evans, R. D (2017) A critical analysis of the direct effects of dredging on fish. *Fish and Fisheries*. 18 (5): 967-985
- Weynberg, K. D., Neave, M., Clode, P. L., Woolstra, C. R., Brownlee, C., Laffy, P., Webster, N. S., Levin, R. A., Wood-Charlson, E. M. & van Oppen, M. J. H (2017) Prevalent and persistent viral infection in cultures of the coral algal endosymbiont *Symbiodinium*. *Coral Reefs*. 36 (3) 773-784
- White, D., Stanier, S., O'Loughlin, C., Chow, S. H., Randolph, M., Draper, S., Mohr, H., John, M., Peuchen, J., Fearon, R., Roux, A. & Chow, F (2017) Remote intelligent geotechnical seabed surveys-technology emerging from the RIGSS JIP. *Offshore Site Investigation and Geotechnics : Smarter solutions for future offshore developments*. Powell, T. (ed.). London: Society for Underwater Technology, Vol. 2. 1214-1222
- White, D. J., Clukey, E. C., Randolph, M. F., Boylan, N., Bransby, M. F., Zakeri, A., Hill, A. J. & Jaeck, C (2017) The state of knowledge of pipe-soil interaction for on-bottom pipeline design. *Offshore Technology Conference, OTC Offshore Technology Conference*, Vol. 2. 969-995
- Whittaker, C. N., Taylor, P., Fitzgerald, C. J., Raby, A. C., Orszaghova, J. & Borthwick, A. G. L (2017) Optimisation of focused wave group runup on a plane beach. *Coastal Engineering*. 121: 44-55
- Wilson, S. K., Depczynski, M., Holmes, T. H., Noble, M. M., Radford, B. T., Tinkler, P. & Fulton, C. J (2017) Climatic conditions and nursery habitat quality provide indicators of reef fish recruitment strength. *Limnology and Oceanography*. 62 (5) : 1868–1880
- Winter, G., Lowe, R. J., Symonds, G., Hansen, J. E. & van Dongeren, A. R., Jun (2017) Standing infragravity waves over an alongshore irregular rocky bathymetry. *Journal of Geophysical Research*. 122 (12): 12305–12318
- Wolgamot, H. A., Meylan, M. H. & Reid, C. D (2017) Multiply heaving bodies in the time-domain: Symmetry and complex resonances. *Journal of Fluids and Structures*. 69: 232-251
- Wooldridge, S. A., Heron, S. F., Brodie, J. E., Done, T. J., Masiri, I. & Hinrichs, S (2017) Excess seawater nutrients, enlarged algal symbiont densities and bleaching sensitive reef locations: 2. A regional- scale predictive model for the Great Barrier Reef, Australia. *Marine Pollution Bulletin*. 114 (1): 343-354
- Wu, P. P. Y., Mengersen, K., McMahon, K., Kendrick, G. A., Chartrand, K., York, P. H., Rasheed, M. A. & Caley, M. J (2017) Timing anthropogenic stressors to mitigate their impact on marine ecosystem resilience. *Nature Communications*. 8 (1)
- Xiong, L., White, D. J., Neubecker, S., Zhao, W. & Yang, J (2017) Anchor loads in taut moorings: The impact of inverse catenary shakedown. *Applied Ocean Research*. (67): 225-235
- York PH, Smith TM, Coles RG, McKenna S, Connolly RM, Irving AD, Jackson EL, McMahon K, Runcie J, Sherman CDH, Sullivan B, Trevathan-Tackett S, Brodersen K, Carter AB, Ewers C, Lavery P, Roelfsema C, Samper-Villarreal J, Sinclair EA, Strydom S, Tanner J, Van Dijk K-J, Warry F, Waycott M, and Whitehead S (2017) Identifying knowledge gaps in seagrass research and management: an Australian perspective. *Marine Environmental Research* 127: 163-172
- Yuan, F., White, D. J. & O'Loughlin, C. D (2017) The evolution of seabed stiffness during cyclic movement in a riser touchdown zone on soft clay. *Geotechnique*. 67 (2): 127-137

Zarco-Perello, S., Wernberg, T., Langlois, T. J. & Vanderklift, M. A (2017) Tropicalization strengthens consumer pressure on habitat-forming seaweeds. *Scientific Reports*. 7 (1)

Zhang, L., Hipsey, M. R., Zhang, G. X., Busch, B. D. & Li, H. Y (2017) Simulation of multiple water source ecological replenishment for Chagan Lake based on coupled hydrodynamic and water quality models. *Water Science & Technology: Water Supply*. 17 (6) 1774-1784.

Zhang, Q., Draper, S., Cheng, L., Zhao, M. & An, H (2017) Experimental study of local scour beneath two tandem pipelines in steady current. *Coastal Engineering Journal*. 59 (1) 1-22

Zhang, W., Taylor, P. & Darton, R. C (2017) Simple estimation of effective elastic constants for thin plates with regular perforations and an application to the vibration of distillation column trays. *Journal of Strain Analysis for Engineering Design*. 52 (1) 57-66

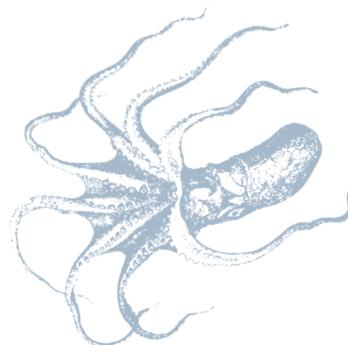
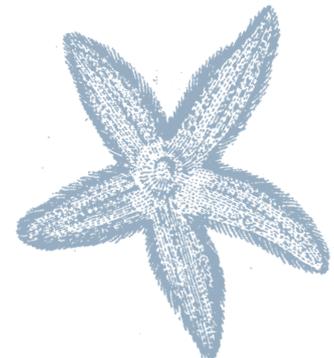
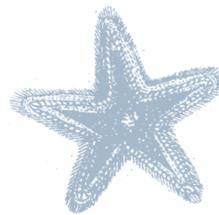
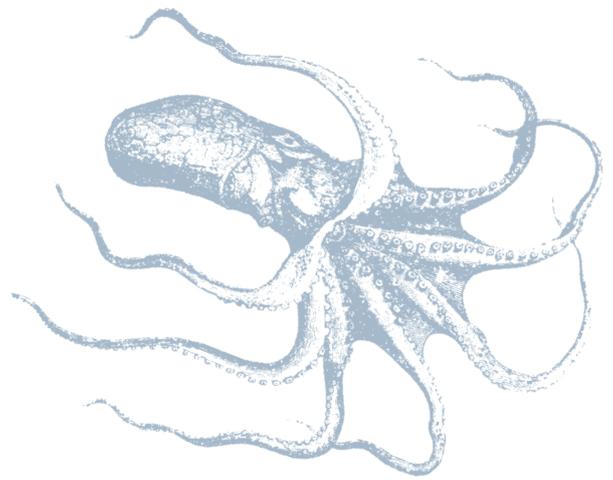
Zhang, W., Wang, D., Randolph, M. F. & Puzrin, A. M (2017) From progressive to catastrophic failure in submarine landslides with curvilinear slope geometries. *Geotechnique*. 67 (12): 1104-1119

Zhao, W. & McPhail, F (2017) Roll response of an LNG carrier considering the liquid cargo flow. *Ocean Engineering*. 129: 83-91

Zheng, J., Hossain, M. S. & Wang, D (2017) Numerical investigation of spudcan penetration in multi-layer deposits with an interbedded sand layer. *Geotechnique*. 67 (12): 1050-1066

Zhou, H., Liu, H., Randolph, M. F., Kong, G. & Cao, Z (2017) Experimental and analytical study of X-Section Cast-In-Place concrete pile installation effect. *International Journal of Physical Modelling in Geotechnics*. 17 (2) 103-121

Zhou, Z., White, D. J. & O'Loughlin, C. D (2017) Predicting the changing soil response for vertical pipe-seabed interaction accounting for remoulding, reconsolidation and maintained load. *Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering - OMAE*. ASME International, Vol. 9.



Oceans Institute 2018 Publications

- Abdolahpour, M., & Ghisalberti, M. (2018). The impact of waves on aquatic canopy flow. In T. C. W. Lau, & R. M. Kelso (Eds.), *Proceedings of the 21st Australasian Fluid Mechanics Conference* [645] Adelaide: Australasian Fluid Mechanics Society.
- Abdolahpour, M., Ghisalberti, M., McMahon, K., & Lavery, P. (2018). The impact of flexibility on flow, turbulence, and vertical mixing in coastal canopies. *Limnology and Oceanography*, 63(6), 2777-2792. <https://doi.org/10.1002/lno.11008>
- Abdul Wahab, M. A., Radford, B., Cappo, M., Colquhoun, J., Stowar, M., Depczynski, M., ... Heyward, A. (2018). Biodiversity and spatial patterns of benthic habitat and associated demersal fish communities at two tropical submerged reef ecosystems. *Coral Reefs*, 37(2), 327-343. <https://doi.org/10.1007/s00338-017-1655-9>
- Abesamis, R. A., Langlois, T., Birt, M., Thillainath, E., Buclo, A. A., Arceo, H. O., & Russ, G. R. (2018). Benthic habitat and fish assemblage structure from shallow to mesophotic depths in a storm-impacted marine protected area. *Coral Reefs*, 37(1), 81-97. <https://doi.org/10.1007/s00338-017-1635-0>
- Acciaoli, G., & Afiff, S. (2018). Neoliberal conservation in central Kalimantan, Indonesia: Evaluating the approach to environmental education of the transnational conservation organisation Rare. *Indonesia and the Malay World*, 46(136), 241-262. <https://doi.org/10.1080/13639811.2018.1531968>
- Adams, M. P., Ghisalberti, M., Lowe, R. J., Callaghan, D. P., Baird, M. E., Infantes, E., & O'Brien, K. R. (2018). Water residence time controls the feedback between seagrass, sediment and light: Implications for restoration. *Advances in Water Resources*, 117, 14-26. <https://doi.org/10.1016/j.advwatres.2018.04.004>
- Adyel, T. M., Hipsey, M. R., & Oldham, C. (2018). A multi-functional and multi-compartment constructed wetland to support urban waterway restoration. *Water practice and technology*, 13(4), 764-770. <https://doi.org/10.2166/wpt.2018.086>
- Ajdehak, E., Zhao, M., Cheng, L., & Draper, S. (2018). Numerical investigation of local scour beneath a sagging subsea pipeline in steady currents. *Coastal Engineering*, 136, 106-118. <https://doi.org/10.1016/j.coastaleng.2018.02.007>
- Alim, A., Naseem, I., Togneri, R., & Bennamoun, M. (2018). The most discriminant subbands for face recognition: A novel information-theoretic framework. *International Journal of Wavelets, Multiresolution and Information Processing*, 16(5), [1850040]. <https://doi.org/10.1142/S0219691318500406>
- Aman, Z. M., Qin, H., Pickarts, M., Di Lorenzo, M., May, E. F., Koh, C. A., & Zerpa, L. E. (2018). Deposition and shear stress initial investigations for hydrate blockage. In Offshore Technology Conference, OTC 2018 (Vol. 4, pp. 2695-2708). *Offshore Technology Conference*.
- Amuda, A. G., Hasan, A., Sahdi, F., & Taib, S. N. L. (2018). Variable penetration rate testing for shear strength of peat – a review. *International Journal of Geotechnical Engineering*, 1-13. <https://doi.org/10.1080/19386362.2018.1464816>
- An, S., Boussaid, F., Bennamoun, M., & Sohel, F. (2018). Exploiting layerwise convexity of rectifier networks with sign constrained weights. *Neural Networks*, 105, 419-430. <https://doi.org/10.1016/j.neunet.2018.06.005>
- Andrzejaczek, S., Gleiss, A. C., Jordan, L. K. B., Pattiaratchi, C. B., Howey, L. A., Brooks, E. J., & Meekan, M. G. (2018). Temperature and the vertical movements of oceanic whitetip sharks, *Carcharhinus longimanus*. *Scientific Reports*, 8(1), [8351]. <https://doi.org/10.1038/s41598-018-26485-3>
- Andrzejaczek, S., Gleiss, A. C., Pattiaratchi, C. B., & Meekan, M. G. (2018). First insights into the fine-scale movements of the sandbar shark, *Carcharhinus plumbeus*. *Frontiers in Marine Science*, 5(DEC), [483]. <https://doi.org/10.3389/fmars.2018.00483>
- Arias-Ortiz, A., Masqué, P., Garcia-Orellana, J., Serrano, O., Mazarrasa, I., Marbá, N., ... Duarte, C. M. (2018). Reviews and syntheses: 210Pb-derived sediment and carbon accumulation rates in vegetated coastal ecosystems - Setting the record straight. *Biogeosciences*, 15(22), 6791-6818. <https://doi.org/10.5194/bg-15-6791-2018>
- Arias-Ortiz, A., Serrano, O., Masqué, P., Lavery, P. S., Mueller, U., Kendrick, G. A., ... Duarte, C. M. (2018). A marine heatwave drives massive losses from the world's largest seagrass carbon stocks. *Nature Climate Change*, 8, 338-334. <https://doi.org/10.1038/s41558-018-0096-y>
- Asif, U., Bennamoun, M., & Sohel, F. (2018). A Multi-modal, Discriminative and Spatially Invariant CNN for RGB-D Object Labeling. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(9), 2051-2065. <https://doi.org/10.1109/TPAMI.2017.2747134>

- Astfalck, L. C., Cripps, E. J., Gosling, J. P., Hodkiewicz, M. R., & Milne, I. A. (2018). Expert elicitation of directional metocean parameters. *Ocean Engineering*, 161, 268-276. <https://doi.org/10.1016/j.oceaneng.2018.04.047>
- Awan, S. E., Bennamoun, M., Sanfilippo, F., Sohel, F., Shah, S., Rankin, J., & Dwivedi, G. (2018). Developing and testing a new machine learning method to identify patients with heart failure who are at risk of 30-day readmission or mortality. *Heart, Lung and Circulation*.
- Awan, S. E., Sohel, F., Sanfilippo, F. M., Bennamoun, M., & Dwivedi, G. (2018). Machine learning in heart failure: Ready for prime time. *Current Opinion in Cardiology*, 33(2), 190-195. <https://doi.org/10.1097/HCO.0000000000000491>
- Azmi, A. M., & Zhou, T. (2018). Effect of screen geometry on the vortex formation behind a circular cylinder. *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, 44(1), 47-54.
- Azmi, A. M., Jamil, H., & Zhou, T. (2018). Effect of Hole-uniformity of Shrouds on Vortex Shedding Suppression behind a Circular Cylinder. *IOP Conference Series: Materials Science and Engineering*, 417(1), [012036]. <https://doi.org/10.1088/1757-899X/417/1/012036>
- Azmi, A. M., Zhou, T., Zhou, Y., Wang, H., & Cheng, L. (2018). Coherent structures in a screen cylinder wake. *Physical Review Fluids*, 7(3), [074702]. <https://doi.org/10.1103/PhysRevFluids.3.074702>
- Bahmanpour, M. H. (2018). The Holloway Current along the shelf edge of North Western Australia. <https://doi.org/10.26182/5b4c110a38b2c>
- Baker, C. J., Oakley, J. H., Rowland, D., Hughes, T. J., Aman, Z. M., & May, E. F. (2018). Rapid Simulation of Solid Deposition in Cryogenic Heat Exchangers to Improve Risk Management in Liquefied Natural Gas Production. *Energy and Fuels*, 32(1), 255-267. <https://doi.org/10.1021/acs.energyfuels.7b03057>
- Barlow, J., França, F., Gardner, T. A., Hicks, C. C., Lennox, G. D., Berenguer, E., ... Graham, N. A. J. (2018). The future of hyperdiverse tropical ecosystems. *Nature*, 559(7715), 517-526. <https://doi.org/10.1038/s41586-018-0301-1>
- Beemer, R. D., Biscontin, G., Murali, M., & Aubeny, C. P. (2018). Use of a MEMS accelerometer to measure orientation in a geotechnical centrifuge. *International Journal of Physical Modelling in Geotechnics*, 18(5), 253-265. <https://doi.org/10.1680/jphmg.16.00077>
- Beemer, R., Bandini, A., Shaw, J., Lebrec, U., & Cassidy, M. (2018). The Granular Structure of Two Marine Carbonate Sediments. In *ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering [OMAE2018-77087]* United States: ASME International. <https://doi.org/10.1115/OMAE2018-77087>
- Beemer, R., Cassidy, M., & Gaudin, C. (2018). Investigation of an OFDR Fibre Bragg's System for use in geotechnical scale modelling. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics: Proceedings of the 9th International Conference on Physical Modelling in Geotechnics (ICPMG 2018)*, July 17-20, 2018, London, United Kingdom (Vol. 1, pp. 279-284). United Kingdom: CRC Press.
- Begg, S. E., Fowkes, N., Stemler, T., & Cheng, L. (2018). Fault detection in vibration systems: Identifying damaged moorings. *Ocean Engineering*, 164, 577-589. <https://doi.org/10.1016/j.oceaneng.2018.06.006>
- Benjamin, J., O'Leary, M., Ward, I., Hacker, J., Ulm, S., Veth, P., ... Bailey, G. (2018). Underwater archaeology and submerged landscapes in Western Australia. *Antiquity*, 92(363). <https://doi.org/10.15184/aqy.2018.103>
- Bentley, B. (2018). Predicting the impacts of increasing nest temperatures associated with climate change on Western Australian sea turtles. <https://doi.org/10.26182/5b9f3530d0f35>
- Bienen, B., Klinkvort, R. T., O'Loughlin, C., Zhu, F., & Byrne, B. W. (2018). Suction caissons in dense sand, part I: installation, limiting capacity and drainage. *Géotechnique*, 68(11), 937-952. <https://doi.org/10.1680/jgeot.16.P.281>
- Bienen, B., Klinkvort, R. T., O'Loughlin, C., Zhu, F., & Byrne, B. W. (2018). Suction caissons in dense sand, part II: vertical cyclic loading into tension. *Géotechnique*, 68(11), 953-967. <https://doi.org/10.1680/jgeot.16.P.282>
- Bird, M. I., Beaman, R. J., Condie, S. A., Cooper, A., Ulm, S., & Veth, P. (2018). Palaeogeography and voyage modeling indicates early human colonization of Australia was likely from Timor-Roti. *Quaternary Science Reviews*, 191, 431-439. <https://doi.org/10.1016/j.quascirev.2018.04.027>
- Bluteau, C. E., Ivey, G. N., Donis, D., & McGinnis, D. F. (2018). Determining Near-Bottom Fluxes of Passive Tracers in Aquatic Environments. *Geophysical Research Letters*, 45(6), 2716-2725. <https://doi.org/10.1002/2017GL076789>
- Bond, T., Langlois, T. J., Partridge, J. C., Birt, M. J., Malseed, B. E., Smith, L., & McLean, D. L. (2018). Diel shifts and habitat associations of fish assemblages on a subsea pipeline. *Fisheries Research*, 206, 220-234. <https://doi.org/10.1016/j.fishres.2018.05.011>
- Bond, T., Partridge, J. C., Taylor, M. D., Cooper, T. F., & McLean, D. L. (2018). The influence of depth and a subsea pipeline on fish assemblages and commercially fished species. *PLoS One*, 13(11), e0207703. <https://doi.org/10.1371/journal.pone.0207703>
- Bond, T., Partridge, J. C., Taylor, M. D., Langlois, T. J., Malseed, B. E., Smith, L. D., & McLean, D. L. (2018). Fish associated with a subsea pipeline and adjacent seafloor of the North West Shelf of Western Australia. *Marine Environmental Research*, 141, 53-65. <https://doi.org/10.1016/j.marenvres.2018.08.003>

- Bond, T., Prince, J., Partridge, J. C., White, D., & McLean, D. L. (2018). The value of Subsea pipelines to marine biodiversity. *In Offshore Technology Conference Asia 2018, OTCA 2018 Offshore Technology Conference*. <https://doi.org/10.4043/28240-MS>
- Bonebrake, T. C., Brown, C. J., Bell, J. D., Blanchard, J. L., Chauvenet, A., Champion, C., ... Pecl, G. T. (2018). Managing consequences of climate-driven species redistribution requires integration of ecology, conservation and social science. *Biological Reviews*, 93(1), 284-305. <https://doi.org/10.1111/brv.12344>
- Boruff, B., Biggs, E., Pauli, N., Callow, N., & Clifton, J. (2018). Changing water system vulnerability in Western Australia's Wheatbelt region. *Applied Geography*, 91, 131-143. <https://doi.org/10.1016/j.apgeog.2017.12.016>
- Boschetti, F., Hughes, M., Jones, C., & Lozano-Montes, H. (2018). On decision makers' perceptions of what an ecological computer model is, what it does, and its impact on limiting model acceptance. *Sustainability (Switzerland)*, 10(8), [2767]. <https://doi.org/10.3390/su10082767>
- Botero, A., Kapeller, I., Cooper, C., Clode, P. L., Shlomei, J., & Thompson, R. C. A. (2018). The kinetoplast DNA of the Australian trypanosome, *Trypanosoma copemani*, shares features with *Trypanosoma cruzi* and *Trypanosoma lewisi*. *International Journal for Parasitology*, 48(9-10), 691-700. <https://doi.org/10.1016/j.ijpara.2018.02.006>
- Bouchet, P., Meeuwig, J., Erbe, C., Wellard, R., Pattiaratchi, C., & Salgado-Kent, C. (2018). *Bremer Canyon emerging priorities project EP2: final report: Occurrence and distribution of marine wildlife in the Bremer Bay region*. Perth: University of Western Australia.
- Bransby, M. F., Barlow, D. T., Brown, M. J., Davidson, J., Brankin, S., & Robinson, S. (2018). The performance of pipeline ploughs traversing seabed slopes. *Ocean Engineering*, 148, 125-135. <https://doi.org/10.1016/j.oceaneng.2017.11.028>
- Branson, P. M., Rayson, M., Ghisalberti, M., & Ivey, G. N. (2018). Coexistence of order and chaos in C major. *Physical Review Fluids*, 3(10), [100510]. <https://doi.org/10.1103/PhysRevFluids.3.100510>
- Branson, P., Ghisalberti, M., & Ivey, G. (2018). Shallow water island wakes in unsteady tidal flows. In T. C. W. Lau, & R. M. Kelso (Eds.), *Proceedings of the 21st Australasian Fluid Mechanics Conference [589] Adelaide: Australasian Fluid Mechanics Society*.
- Brewer, P., Chambers, D., Hetland, R., Karnauskas, K., Lowe, R., Moran, S. B., ... Proshutinsky, A. (2018). Thank You to Our 2017 Peer Reviewers. *Journal of Geophysical Research: Oceans*, 123(9), 6042-6052. <https://doi.org/10.1029/2018JC014410>
- Bruce, L. C., Frassl, M. A., Arhonditsis, G. B., Gal, G., Hamilton, D. P., Hanson, P. C., ... Hipsey, M. R. (2018). A multi-lake comparative analysis of the General Lake Model (GLM): Stress-testing across a global observatory network. *Environmental Modelling and Software*, 102, 274-291. <https://doi.org/10.1016/j.envsoft.2017.11.016>
- Bubalo, M., Janeković, I., & Orlić, M. (2018). Chrystal and Proudman resonances simulated with three numerical models. *Ocean Dynamics*, 68(4-5), 497-507. <https://doi.org/10.1007/s10236-018-1146-8>
- Buckley, M. L., Lowe, R. J., Hansen, J. E., van Dongeren, A. R., & Storlazzi, C. D. (2018). Mechanisms of Wave-Driven Water Level Variability on Reef-Fringed Coastlines. *Journal of Geophysical Research C: Oceans*, 123(5), 3811-3831. <https://doi.org/10.1029/2018JC013933>
- Calich, H., Estevanez, M., & Hammerschlag, N. (2018). Overlap between highly suitable habitats and longline gear management areas reveals vulnerable and protected regions for highly migratory sharks. *Marine Ecology Progress Series*, 602, 183-195. <https://doi.org/10.3354/meps12671>
- Calmanovici, B., Waayers, D., Reisser, J., Clifton, J., & Proietti, M. (2018). I3S Pattern as a mark-recapture tool to identify captured and free-swimming sea turtles: An assessment. *Marine Ecology Progress Series*, 589, 263-268. <https://doi.org/10.3354/meps12483>
- Camp, E. F., Schoepf, V., & Suggett, D. J. (2018). How can "Super Corals" facilitate global coral reef survival under rapid environmental and climatic change? *Global Change Biology*, 24(7), 2755-2757. <https://doi.org/10.1111/gcb.14153>
- Camp, E. F., Schoepf, V., Mumby, P. J., & Suggett, D. J. (2018). Editorial: The future of coral reefs subject to rapid climate change: Lessons from natural extreme environments. *Frontiers in Marine Science*, 5(NOV), [433]. <https://doi.org/10.3389/fmars.2018.00433>
- Camp, E. F., Schoepf, V., Mumby, P. J., Hardtke, L. A., Rodolfo-Metalpa, R., Smith, D., & Suggett, D. J. (2018). The future of coral reefs subject to rapid climate change: Lessons from natural extreme environments. *Frontiers in Marine Science*, 5. <https://doi.org/10.3389/fmars.2018.00004>
- Capodici, F., Ciraolo, G., Cosoli, S., Maltese, A., Mangano, M. C., & Sarà, G. (2018). Downscaling hydrodynamics features to depict causes of major productivity of Sicilian-Maltese area and implications for resource management. *Science of the Total Environment*, 628-629, 815-825. <https://doi.org/10.1016/j.scitotenv.2018.02.106>
- Chang, K., Hossain, M. S., Kim, Y. H., Randolph, M. F., & Wang, D. (2018). Novel dynamically installed fish anchor - diving upon loading in calcareous silt. In *Offshore Technology Conference (OTC 2018) (Vol. 1, pp. 274-288)*. [OTC-28901-MS] *United States: Offshore Technology Conference*. <https://doi.org/10.4043/28901-MS>
- Chao, S., & Westbrook, V. (2018). Reading humorously: Towards new perspectives. In V. Westbrook, & S. Chao (Eds.), *Humour in the arts: New perspectives* (1 ed., pp. 1-19). (Studies for the International Society for Cultural History). Abington, Oxon: Routledge.

- Charlton, T. B., Di Lorenzo, M., Zerpa, L. E., Koh, C. A., Johns, M. L., May, E. F., & Aman, Z. M. (2018). Simulating Hydrate Growth and Transport Behavior in Gas-Dominant Flow. *Energy and Fuels*, 32(2), 1012-1023. <https://doi.org/10.1021/acs.energyfuels.7b02199>
- Charlton, T. B., Zerpa, L. E., Koh, C. A., May, E. F., & Aman, Z. M. (2018). Predicting hydrate blockage formation in gas-dominant systems. In *Offshore Technology Conference Asia 2018, OTCA 2018 Malaysia: Offshore Technology Conference*.
- Chee, J., Walker, A., & White, D. (2018). Controlling lateral buckling of subsea pipeline with sinusoidal shape pre-deformation. *Ocean Engineering*, 151, 170-190. <https://doi.org/10.1016/j.oceaneng.2018.01.024>
- Chee, J., Walker, A., & White, D. (2018). Effect of lateral pipe-soil interaction on controlled lateral buckling using pre-deformed pipeline. In *Pipelines, Risers, and Subsea Systems* (Vol. 5). The American Society of Mechanical Engineers (ASME). <https://doi.org/10.1115/OMAEE2018-77154>
- Chen, J. G., Zhou, Y., Antonia, R. A., & Zhou, T. M. (2018). Characteristics of the turbulent energy dissipation rate in a cylinder wake. *Journal of Fluid Mechanics*, 835, 271-300. <https://doi.org/10.1017/jfm.2017.765>
- Chen, L., Draper, S., Wolgamot, H. A., Taylor, P., & Milne, I. A. (2018). Green water evaluation for FPSOs during cyclones. In *Offshore Technology Conference Asia 2018* (Vol. 2, pp. 739-755). [OTC-28538-MS] *United States: Offshore Technology Conference*. <https://doi.org/10.4043/28538-MS>
- Chen, L., Zang, J., Taylor, P., Sun, L., Morgan, G., Grice, J., ... Tello Ruiz, M. (2018). An experimental decomposition of nonlinear forces on a surface-piercing column: Stokes-type expansions of the force harmonics. *Journal of Fluid Mechanics*, 848, 42-77. <https://doi.org/10.1017/jfm.2018.339>
- Chen, P., Wu, Z., Leung, A., Chen, X., Landao-Bassonga, E., Gao, J., ... Zheng, M. (2018). Fabrication of a silver nanoparticle-coated collagen membrane with anti-bacterial and anti-inflammatory activities for guided bone regeneration. *Biomedical Materials*, 13(6), [065014]. <https://doi.org/10.1088/1748-605X/aae15b>
- Chow, S. H., Bienen, B., & Randolph, M. (2018). Rapid penetration of piezocones in sand. In M. Hicks, F. Pisano, & J. Puechen (Eds.), *Cone Penetration Testing 2018: Proceedings of the 4th International Symposium on Cone Penetration Testing (CPT'18)*, 21-22 June, 2018, Delft, The Netherlands (pp. 213-219). London: CRC Press.
- Chow, S. H., Le, J., Forsyth, M., & O'Loughlin, C. (2018). Capacity of vertical and horizontal plate anchors in sand under normal and shear loading. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics: Proceedings of the 9th International Conference on Physical Modelling in Geotechnics (ICPMG 2018)*, July 17-20, 2018, London, United Kingdom (Vol. 1, pp. 559-564). London: CRC Press.
- Chow, S. H., O'Loughlin, C., Gaudin, C., & Tore Lieng, J. (2018). Drained monotonic and cyclic capacity of a dynamically installed plate anchor in sand. *Ocean Engineering*, 148, 588-601. <https://doi.org/10.1016/j.oceaneng.2017.11.051>
- Christian, H., Wenden, L., Bai, P., Trost, S., Maitland, C., Rosenberg, M., ... Schipperin, J. (2018). Influence of nature contact on PA in early childhood education and care (ECEC). *Journal of Physical Activity & Health*, 15(10), S103-S104.
- Cinner, J. E., Maire, E., Huchery, C., Aaron MacNeil, M., Graham, N. A. J., Mora, C., ... Mouillot, D. (2018). Gravity of human impacts mediates coral reef conservation gains. *Proceedings of the National Academy of Sciences of the United States of America*, 115(27), E6116-E6125. <https://doi.org/10.1073/pnas.1708001115>
- Clifton, J., P. Hampton, M., & Jeyacheya, J. (2018). Opening the box? Tourism planning and development in Myanmar: capitalism, communities and change. *Asia Pacific Viewpoint*, 59(3), 323-337. <https://doi.org/10.1111/apv.12200>
- Cocjin, M. L., Gourvenec, S. M., & White, D. J. (2018). Softening and consolidation around seabed pipelines: Centrifuge modelling. *Geotechnique*, 68(2), 118-132. <https://doi.org/10.1680/jgeot.16.P.280>
- Coggins, L. X., Sounness, J., Zheng, L., Ghisalberti, M., & Ghadouani, A. (2018). Impact of hydrodynamic reconfiguration with baffles on treatment performance in waste stabilisation ponds: A full-scale experiment. *Water (Switzerland)*, 10(2), [109]. <https://doi.org/10.3390/w10020109>
- Coleman, M. A., & Wernberg, T. (2018). Genetic and morphological diversity in sympatric kelps with contrasting reproductive strategies. *Aquatic Biology*, 27, 65-73. <https://doi.org/10.3354/ab00698>
- Collin, S. P. (2018). Scene through the eyes of an apex predator: a comparative analysis of the shark visual system. *Clinical and Experimental Optometry*, 101(5), 624-640. <https://doi.org/10.1111/cxo.12823>
- Comeau, S., Cornwall, C. E., DeCarlo, T. M., Krieger, E., & McCulloch, M. T. (2018). Similar controls on calcification under ocean acidification across unrelated coral reef taxa. *Global Change Biology*, 24(10), 4857-4868. <https://doi.org/10.1111/gcb.14379>
- Contardo, S., Hoeke, R., Hemer, M., Symonds, G., McInnes, K., & O'Grady, J. (2018). In situ observations and simulations of coastal wave field transformation by wave energy converters. *Coastal Engineering*, 140, 175-188. <https://doi.org/10.1016/j.coastaleng.2018.07.008>
- Contardo, S., Symonds, G., & Dufois, F. (2018). Breakpoint Forcing Revisited: Phase Between Forcing and Response. *Journal of Geophysical Research C: Oceans*, 123(2), 1354-1363. <https://doi.org/10.1002/2017JC013138>

- Cooper, B., Burton, M., & Crase, L. (2018). Valuing improvements in urban water security: evidence of heterogeneity derived from a latent class model for eastern Australia. *Applied Economics*, 50(31), 3364-3375. <https://doi.org/10.1080/00036846.2017.1420896>
- Cooper, C., Andrew Thompson, R. C., Rigby, P., Buckley, A., Peacock, C., & Clode, P. L. (2018). The marsupial trypanosome *Trypanosoma copemani* is not an obligate intracellular parasite, although it adversely affects cell health. *Parasites and Vectors*, 11(1), [521]. <https://doi.org/10.1186/s13071-018-3092-1>
- Cooper, C., Keatley, S., Northover, A., Gofton, A. W., Brigg, F., Lymbery, A. J., ... Thompson, R. C. A. (2018). Next generation sequencing reveals widespread trypanosome diversity and polyparasitism in marsupials from Western Australia. *International Journal For Parasitology: Parasites And Wildlife*, 7(1), 58-67. <https://doi.org/10.1016/j.ijppaw.2018.01.005>
- Cornwall, C. E., Comeau, S., DeCarlo, T. M., Moore, B., D'Alexis, Q., & McCulloch, M. T. (2018). Resistance of corals and coralline algae to ocean acidification: physiological control of calcification under natural pH variability. *Proceedings of the Royal Society B: Biological Sciences*, 285(1884), [20181168]. <https://doi.org/10.1098/rspb.2018.1168>
- Cosoli, S., Grcic, B., de Vos, S., & Hetzel, Y. (2018). Improving data quality for the Australian high frequency ocean radar network through real-time and delayed-mode quality-control procedures. *Remote Sensing*, 10(9), [1476]. <https://doi.org/10.3390/rs10091476>
- Cottingham, A., Huang, P., Hipsey, M. R., Hall, N. G., Ashworth, E., Williams, J., & Potter, I. C. (2018). Growth, condition, and maturity schedules of an estuarine fish species change in estuaries following increased hypoxia due to climate change. *Ecology and Evolution*, 8(14), 7111-7130. <https://doi.org/10.1002/ece3.4236>
- Cure, K., Hobbs, J. P. A., Langlois, T. J., Abdo, D. A., Bennett, S., & Harvey, E. S. (2018). Distributional responses to marine heat waves: insights from length frequencies across the geographic range of the endemic reef fish *Choerodon rubescens*. *Marine Biology*, 165(1), [1]. <https://doi.org/10.1007/s00227-017-3259-x>
- Cure, K., Hobbs, J. P. A., Langlois, T. J., Fairclough, D. V., Thillainath, E. C., & Harvey, E. S. (2018). Spatiotemporal patterns of abundance and ecological requirements of a labrid's juveniles reveal conditions for establishment success and range shift capacity. *Journal of Experimental Marine Biology and Ecology*, 500, 34-45. <https://doi.org/10.1016/j.jembe.2017.12.006>
- Curson, A. R. J., Williams, B. T., Pinchbeck, B. J., Sims, L. P., Martínez, A. B., Rivera, P. P. L., ... Todd, J. D. (2018). DSYB catalyses the key step of dimethylsulfoniopropionate biosynthesis in many phytoplankton. *Nature Microbiology*, 3(4), 430-439. <https://doi.org/10.1038/s41564-018-0119-5>
- Cuttler, M., Hansen, J., Lowe, R., & Drost, E. J. F. (2018). Response of a fringing reef coastline to the direct impact of a tropical cyclone. *Limnology and Oceanography Letters*, 3(2), 31-38. <https://doi.org/10.1002/lol2.10067>
- Dai, J., Zhou, S., Ge, Q., Qin, J., Chen, D., Xu, Z., ... Jiang, Q. (2018). Bi-directional regulation of cartilage metabolism by inhibiting BET proteins-analysis of the effect of I-BET151 on human chondrocytes and murine joints. *Journal of Orthopaedic Surgery and Research*, 13(1), [118]. <https://doi.org/10.1186/s13018-018-0797-y>
- Daly, I. M., How, M. J., Partridge, J. C., & Roberts, N. W. (2018). Complex gaze stabilization in mantis shrimp. *Proceedings of the Royal Society B: Biological Sciences*, 285(1878), [20180594]. <https://doi.org/10.1098/rspb.2018.0594>
- Daly, I. M., How, M. J., Partridge, J. C., & Roberts, N. W. (2018). Correction: Complex gaze stabilization in mantis shrimp (Proceedings of the Royal Society B: Biological Sciences (2018) 285 (20180594) DOI: 10.1098/rspb.2018.0594). *Proceedings of the Royal Society B: Biological Sciences*, 285(1881), [20181244]. <https://doi.org/10.1098/rspb.2018.1244>
- Datsgerdi, H. R., & Chua, H. T. (2018). Thermo-economic analysis of low-grade heat driven multi-effect distillation based desalination processes. *Desalination*, 448, 36-48. <https://doi.org/10.1016/j.desal.2018.09.018>
- Davies, C. H., Ajani, P., Armbrrecht, L., Atkins, N., Baird, M. E., Beard, J., ... Richardson, A. J. (2018). A database of chlorophyll a in Australian waters. *Scientific Data*, 5, [180018]. <https://doi.org/10.1038/sdata.2018.18>
- Davis, K. J., Binner, A., Bell, A., Day, B., Poate, T., Rees, S., ... Bateman, I. (2018). A generalisable integrated natural capital methodology for targeting investment in coastal defence. *Journal of Environmental Economics and Policy*, 1-18. <https://doi.org/10.1080/21606544.2018.1537197>
- Davis, K. J., Burton, M., Rogers, A., Spencer-Cotton, A., & Pandit, R. (2018). Eliciting public values for management of complex marine systems: An integrated choice experiment. *Marine Resource Economics*, 34(1). <https://doi.org/10.1086/701303>
- de Bettignies, T., Wernberg, T., & Gurgel, C. F. D. (2018). Exploring the influence of temperature on aspects of the reproductive phenology of temperate seaweeds. *Frontiers in Marine Science*, 5(JUN), [218]. <https://doi.org/10.3389/fmars.2018.00218>
- De Brauwier, M., & Burton, M. (2018). Known unknowns: Conservation and research priorities for soft sediment fauna that supports a valuable SCUBA diving industry. *Ocean and Coastal Management*, 160, 30-37. <https://doi.org/10.1016/j.ocecoaman.2018.03.045>

- DeCarlo, T. M. (2018). Characterizing coral skeleton mineralogy with Raman spectroscopy. *Nature Communications*, 9(1), [5325]. <https://doi.org/10.1038/s41467-018-07601-3>
- DeCarlo, T. M., Comeau, S., Cornwall, C. E., & McCulloch, M. T. (2018). Coral resistance to ocean acidification linked to increased calcium at the site of calcification. *Proceedings of the Royal Society B: Biological Sciences*, 285(1878), [20180564]. <https://doi.org/10.1098/rspb.2018.0564>
- DeCarlo, T. M., Holcomb, M., & McCulloch, M. T. (2018). Reviews and syntheses: Revisiting the boron systematics of aragonite and their application to coral calcification. *Biogeosciences*, 15(9), 2819-2834. <https://doi.org/10.5194/bg-15-2819-2018>
- DeCarlo, T. M., Ren, H., & Farfan, G. A. (2018). The origin and role of organic matrix in coral calcification: Insights from comparing coral skeleton and abiogenic aragonite. *Frontiers in Marine Science*, 5(MAY), [170]. <https://doi.org/10.3389/fmars.2018.00170>
- Di Lorenzo, M., Aman, Z. M., Kozielski, K., Norris, B. W. E., Johns, M. L., & May, E. F. (2018). Modelling hydrate deposition and sloughing in gas-dominant pipelines. *Journal of Chemical Thermodynamics*, 117, 81-90. <https://doi.org/10.1016/j.jct.2017.08.038>
- Ding, W., Clode, P. L., Clements, J. C., & Lambers, H. (2018). Effects of calcium and its interaction with phosphorus on the nutrient status and growth of three *Lupinus* species. *Physiologia Plantarum*, 163(3), 386-398. <https://doi.org/10.1111/ppl.12732>
- Ding, W., Clode, P. L., Clements, J. C., & Lambers, H. (2018). Sensitivity of different *Lupinus* species to calcium under a low phosphorus supply. *Plant Cell and Environment*, 41(7), 1512-1523. <https://doi.org/10.1111/pce.13179>
- Ditchfield, K., Manne, T., Hook, F., Ward, I., & Veth, P. (2018). Coastal occupation before the "Big Swamp": Results from excavations at John Wayne Country Rockshelter on Barrow Island. *Archaeology in Oceania*, 53(3), 163-178. <https://doi.org/10.1002/arco.5164>
- Do, H., Mazzarol, T., Soutar, G., Volery, T., & Reboud, S. (2018). Organisational Factors, Anticipated Rents and Commercialisation in SMEs. *International Journal of Innovation Management*, 22(2), 1. [1850018].
- Doherty, J. P., & Lehane, B. M. (2018). An automated approach for optimizing monopile foundations for offshore wind turbines for serviceability and ultimate limit states design. *Journal of Offshore Mechanics and Arctic Engineering*, 140(5), [051901]. <https://doi.org/10.1115/1.4039523>
- Doherty, J. P., Gourvenec, S., & Gaone, F. M. (2018). Insights from a shallow foundation load-settlement prediction exercise. *Computers and Geotechnics*, 93, 269-279. <https://doi.org/10.1016/j.compgeo.2017.05.009>
- Doherty, J. P., Gourvenec, S., Gaone, F. M., Pineda, J. A., Kelly, R., O'Loughlin, C. D., ... Sloan, S. W. (2018). A novel web based application for storing, managing and sharing geotechnical data, illustrated using the national soft soil field testing facility in Ballina, Australia. *Computers and Geotechnics*, 93, 3-8. <https://doi.org/10.1016/j.compgeo.2017.05.007>
- Doherty, J., Krisdani, H., O'Neill, M., Erbrich, C., Bransby, F., White, D., & Randolph, M. (2018). The design of Subsea foundations subject to general cyclic loading using a massively scalable web based application. *In Proceedings of the Annual Offshore Technology Conference (Vol. 3, pp. 1589-1602)*. [OTC-28911-MS] Texas: Offshore Technology Conference.
- D'Olivo, J. P., Sinclair, D. J., Rankenburg, K., & McCulloch, M. T. (2018). A universal multi-trace element calibration for reconstructing sea surface temperatures from long-lived Porites corals: Removing 'vital-effects'. *Geochimica et Cosmochimica Acta*, 239, 109-135. <https://doi.org/10.1016/j.gca.2018.07.035>
- Draper, S., Griffiths, T., Cheng, L., White, D., & An, H. (2018). Modelling changes to submarine pipeline embedment and stability due to pipeline scour. *In Pipelines, Risers, and Subsea Systems (Vol. 5)*. USA: The American Society of Mechanical Engineers (ASME). <https://doi.org/10.1115/OMAE2018-77985>
- Draper, S., Yao, W., Cheng, L., Tom, J., & An, H. (2018). Estimating the rate of scour propagation along a submarine pipeline in time-varying currents and in fine grained sediment. *In Proceedings of the ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2018): Pipelines, risers, and subsea systems (Vol. 5)*. [OMAE2018-77981] United States: The American Society of Mechanical Engineers (ASME). <https://doi.org/10.1115/OMAE2018-77981>
- Drost, E. J. F., Lowe, R. J., Ivey, G. N., & Jones, N. L. (2018). Wave-current interactions in the continental shelf bottom boundary layer of the Australian North West Shelf during tropical cyclone conditions. *Continental Shelf Research*, 165, 78-92. <https://doi.org/10.1016/j.csr.2018.07.006>
- Du, M., Liu, J., Clode, P. L., & Leong, Y. K. (2018). Surface chemistry, rheology and microstructure of purified natural and synthetic hectorite suspensions. *Physical Chemistry Chemical Physics*, 20(28), 19221-19233. <https://doi.org/10.1039/c8cp01382a>
- Dufois, F., Lowe, R. J., Rayson, M. D., & Branson, P. M. (2018). A Numerical Study of Tropical Cyclone-Induced Sediment Dynamics on the Australian North West Shelf. *Journal of Geophysical Research: Oceans*, 123(8), 5113-5133. <https://doi.org/10.1029/2018JC013939>
- Dyskin, A. V., Basarir, H., Doherty, J., Elchalakani, M., Joldes, G. R., Karrech, A., ... Wittek, A. (2018). Computational monitoring in real time: review of methods and applications. *Geomechanics and Geophysics for Geo-Energy and Geo-Resources*, 4(3), 235-271. <https://doi.org/10.1007/s40948-018-0086-6>
- Ebert, J. R., Fallon, M., Zheng, M. H., & Tay, A. (2018). Arthroscopic autologous chondrocyte implantation in the glenohumeral joint: a case report. *Journal of Shoulder and Elbow Surgery*, 27(10), e300-e307. <https://doi.org/10.1016/j.jse.2018.06.013>

- Eriksson, H., Friedman, K., Amos, M., Bertram, I., Pakoa, K., Fisher, R., & Andrew, N. (2018). Geography limits island small-scale fishery production. *Fish and Fisheries*, 19(2), 308-320. <https://doi.org/10.1111/faf.12255>
- Espinosa-Gayosso, H., Ghisalberti, M., & Ivey, G. (2018). Particle capture in arrays of collectors. In *Proceedings of the 21st Australasian Fluid Mechanics Conference [800] Adelaide: Australasian Fluid Mechanics Society*.
- Etminan Farooji, V. (2018). Numerical investigation of flow resistance and bed shear stress in vegetation canopies. <https://doi.org/10.26182/5c0875e74c16c>
- Etminan Farooji, V., Conde-Frias, M., Abdolahpour, M., Ghisalberti, M., & Lowe, R. (2018). Shear stresses in beds with large roughness elements. In T. C. W. Lau, & R. M. Kelso (Eds.), *Proceedings of the 21st Australasian Fluid Mechanics Conference [631] Australasian Fluid Mechanics Society*.
- Etminan, V., Ghisalberti, M., & Lowe, R. J. (2018). Predicting Bed Shear Stresses in Vegetated Channels. *Water Resources Research*, 54(11), 9187-9206. <https://doi.org/10.1029/2018WR022811>
- Evans, S. M., Sinclair, E. A., Poore, A. G. B., Bain, K. F., & Verges, A. (2018). Assessing the effect of genetic diversity on the early establishment of the threatened seagrass *Posidonia australis* using a reciprocal-transplant experiment. *Restoration Ecology*, 26(3), 570-580. <https://doi.org/10.1111/rec.12595>
- Fan, S., Bienen, B., & Randolph, M. F. (2018). Stability and efficiency studies in the numerical simulation of cone penetration in sand. *Geotechnique Letters*, 8(1), 13-18. <https://doi.org/10.1680/jgele.17.00105>
- Farfan, G. A., Cordes, E. E., Waller, R. G., DeCarlo, T. M., & Hansel, C. M. (2018). Mineralogy of deep-sea coral aragonites as a function of aragonite saturation state. *Frontiers in Marine Science*, 5(DEC), [473]. <https://doi.org/10.3389/fmars.2018.00473>
- Filbee-Dexter, K., & Wernberg, T. (2018). Rise of Turfs: A New Battlefront for Globally Declining Kelp Forests. *Bioscience*, 68(2), 64-76. <https://doi.org/10.1093/biosci/bix147>
- Filbee-Dexter, K., Wernberg, T., Norderhaug, K. M., Ramirez-Llodra, E., & Pedersen, M. F. (2018). Movement of pulsed resource subsidies from kelp forests to deep fjords. *Oecologia*, 187(1), 291-304. <https://doi.org/10.1007/s00442-018-4121-7>
- Fisher, M. F., Zhang, J., Taylor, N. L., Howard, M. J., Berkowitz, O., Debowski, A. W., ... Mylne, J. S. (2018). A family of small, cyclic peptides buried in preproalbumin since the Eocene epoch. *Plant direct*, 2(2), [e00042]. <https://doi.org/10.1002/pld3.42>
- Fisher, R., Walshe, T., Bessell-Browne, P., & Jones, R. (2018). Accounting for environmental uncertainty in the management of dredging impacts using probabilistic dose-response relationships and thresholds. *Journal of Applied Ecology*, 55(1), 415-425. <https://doi.org/10.1111/1365-2664.12936>
- Fisher, R., Wilson, S. K., Sin, T. M., Lee, A. C., & Langlois, T. J. (2018). A simple function for full-subsets multiple regression in ecology with R. *Ecology and Evolution*, 8(12), 6104-6113. <https://doi.org/10.1002/ece3.4134>
- Fitzpatrick, J., Bulsara, M. K., O'Donnell, J., McCrory, P. R., & Zheng, M. H. (2018). The Effectiveness of Platelet-Rich Plasma Injections in Gluteal Tendinopathy: A Randomized, Double-Blind Controlled Trial Comparing a Single Platelet-Rich Plasma Injection With a Single Corticosteroid Injection. *American Journal of Sports Medicine*, 46(4), 933-939. <https://doi.org/10.1177/0363546517745525>
- Fiumana, N., Gaudin, C., Tian, Y., & O'Loughlin, C. D. (2018). Physical modelling of active suction for offshore renewables. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics* (Vol. 1, pp. 603-608). UK: CRC Press/Balkema. <https://doi.org/10.1201/9780429438660-89>
- Foster, T., Heyward, A. J., & Gilmour, J. P. (2018). Split spawning realigns coral reproduction with optimal environmental windows. *Nature Communications*, 9(1), [718]. <https://doi.org/10.1038/s41467-018-03175-2>
- Fraser, M., Gleeson, D., Grierson, P., Laverock, B., & Kendrick, G. (2018). Metagenomic Evidence of Microbial Community Responsiveness to Phosphorus and Salinity Gradients in Seagrass Sediments. *Frontiers in Microbiology*, 9, [1703]. <https://doi.org/10.3389/fmicb.2018.01703>
- Freer, J. J., Partridge, J. C., Tarling, G. A., Collins, M. A., & Genner, M. J. (2018). Predicting ecological responses in a changing ocean: the effects of future climate uncertainty. *Marine Biology*, 165(1), [7]. <https://doi.org/10.1007/s00227-017-3239-1>
- Friedman, K., Gabriel, S., Abe, O., Adnan Nuruddin, A., Ali, A., Bidin Raja Hassan, R., ... Ye, Y. (2018). Examining the impact of CITES listing of sharks and rays in Southeast Asian fisheries. *Fish and Fisheries*, 19(4), 662-676. <https://doi.org/10.1111/faf.12281>
- Friedman, K., Garcia, S. M., & Rice, J. (2018). Mainstreaming biodiversity in fisheries. *Marine Policy*, 95, 209-220. <https://doi.org/10.1016/j.marpol.2018.03.001>
- Fu, D., Gaudin, C., Bienen, B., Tian, Y., & Cassidy, M. J. (2018). Combined load capacity of a preloaded skirted circular foundation in clay. *Journal of Geotechnical and Geoenvironmental Engineering*, 144(11), [04018084]. [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0001960](https://doi.org/10.1061/(ASCE)GT.1943-5606.0001960)
- Fu, D., Gaudin, C., Tian, Y., Bienen, B., & Cassidy, M. J. (2018). Post-preload undrained uniaxial capacities of skirted circular foundations in clay. *Ocean Engineering*, 147, 355-369. <https://doi.org/10.1016/j.oceaneng.2017.10.029>
- Gagliano, M., Abramson, C. I., & Depczynski, M. (2018). Plants learn and remember: lets get used to it. *Oecologia*, 186(1), 29-31. <https://doi.org/10.1007/s00442-017-4029-7>

- Galaiduk, R., Radford, B. T., & Harvey, E. S. (2018). Utilizing individual fish biomass and relative abundance models to map environmental niche associations of adult and juvenile targeted fishes. *Scientific Reports*, 8(1), [9457]. <https://doi.org/10.1038/s41598-018-27774-7>
- Gao, L., & Hailu, A. (2018). Site closure management strategies and the responsiveness of conservation outcomes in recreational fishing. *Journal of Environmental Management*, 207, 10-22. <https://doi.org/10.1016/j.jenvman.2017.11.003>
- Gao, M., Gao, W., Papadimitriou, J. M., Zhang, C., Gao, J., & Zheng, M. (2018). Exosomes—the enigmatic regulators of bone homeostasis. *Bone Research*, 6(1), [36]. <https://doi.org/10.1038/s41413-018-0039-2>
- Gaone, F. M., Gourvenec, S., & Doherty, J. P. (2018). Large-scale shallow foundation load tests on soft clay – At the National Field Testing Facility (NFTF), Ballina, NSW, Australia. *Computers and Geotechnics*, 93, 253-268. <https://doi.org/10.1016/j.compgeo.2017.05.008>
- Garza-Gisholt, E., Hart, N. S., & Collin, S. P. (2018). Retinal Morphology and Visual Specializations in Three Species of Chimaeras, the Deep-Sea R. pacifica and C. lignaria, and the Vertical Migrator C. milii (Holocephali). *Brain, Behavior and Evolution*, 92(1-2), 47-62. <https://doi.org/10.1159/000490655>
- Gaskill, C. G., Carlisle, K. B., Schroeder, A. J., Chitwood, J. E., Gay, T. A., & Zhao, W. (2018). Technology qualification of deepwater transport shuttle adjustable buoyancy system. In *Offshore Technology Conference, OTC 2018 (Vol. 5, pp. 3358-3374)*. USA: Offshore Technology Conference.
- Gaudin, C., O'Loughlin, C. D., & Bienen, B. (2018). Geotechnical modelling for offshore renewables. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Proceedings of the 9th International Conference on Physical Modelling in Geotechnics* (ICPMG 2018), July 17-20, 2018, London, United Kingdom (Vol. 1, pp. 33-41). London, United Kingdom: Taylor & Francis.
- Gaudin, C., O'Loughlin, C., & Breen, J. (2018). A new 240 g-tonne geotechnical centrifuge at the University of Western Australia. In *Proceedings of the 9th International Conference on Physical Modelling in Geotechnics* (ICPMG 2018) (pp. 501-506). CRC Press. <https://doi.org/10.1201/9780429438660-73>
- Gaudin, C., O'Loughlin, C., Duong, M. T., Herduin, M., Fiumana, N., Draper, S., ... Cassidy, M. J. (2018). New anchoring paradigms for floating renewables. In *Proceedings of the 12th European Wave and Tidal Energy Conference United Kingdom: Technical Committee of the European Wave and Tidal Energy Conference*.
- Gaynor, A. (2018). Grappling with 'nature' in Australian home gardens 1890-1960. *Environment and History*, 24(1), 23-38. <https://doi.org/10.3197/096734018X15137949591828>
- Gaynor, A. (2018). Learning from our productive past. In N. Rose, & A. Gaynor (Eds.), *Reclaiming the Urban Commons: The past, present and future of food growing in Australian towns and cities* (pp. 167-174). Perth: UWA Publishing.
- Gaynor, A. (2018). Taking Locust Country. In N. Cushing, & J. Frawley (Eds.), *Animals Count: How Population Size Matters in Animal-Human Relations* (pp. 26-40). (Routledge Environmental Humanities). Oxford: Routledge.
- Gaynor, A. (2018). Understanding Our Natural World: The Field Naturalists Club of Victoria 1880-2015. *Victorian Historical Journal*, 89(2), 385-387.
- Gaynor, A., & Rose, N. (Eds.) (2018). *Reclaiming the Urban Commons: The past, present and future of food growing in Australian towns and cities*. Perth: UWA Publishing.
- Ghadouani, A. (2018). Water for the Twenty First Century, Can Small Solutions Help Tackle One of the Biggest Problems Facing Humanity?. Paper presented at 3rd World Congress on Civil, Structural, and Environmental Engineering, Budapest, Hungary. <https://doi.org/10.11159/awspt18.1>
- Giardina, M., Cheong, S., Marjo, C. E., Clode, P. L., Guagliardo, P., Pickford, R., ... Raina, J. B. (2018). Quantifying inorganic nitrogen assimilation by synechococcus using bulk and single-cell mass spectrometry: A comparative study. *Frontiers in Microbiology*, 9(NOV), [2847]. <https://doi.org/10.3389/fmicb.2018.02847>
- Goetze, J. S., Claudet, J., Januchowski-Hartley, F., Langlois, T. J., Wilson, S. K., White, C., ... Jupiter, S. D. (2018). Demonstrating multiple benefits from periodically harvested fisheries closures. *Journal of Applied Ecology*, 55(3), 1102-1113. <https://doi.org/10.1111/1365-2664.13047>
- Goetze, J. S., Langlois, T. J., McCarter, J., Simpfendorfer, C. A., Hughes, A., Leve, J. T., & Jupiter, S. D. (2018). Drivers of reef shark abundance and biomass in the Solomon Islands. *PLoS One*, 13(7), [e0200960]. <https://doi.org/10.1371/journal.pone.0200960>
- Gonzalez Bernat, M. J. (2018). "Living with our backs to the sea": understanding marine and coastal governance in Guatemala. <https://doi.org/10.26182/5be50053b96b0>
- Graham, J. M. R., & Milne, I. A. (2018). Distortion effects on turbulence in a tidal flow due to the mean flow field of a horizontal axis tidal turbine. In *Proceedings of the 12th European Wave and Tidal Energy Conference* (ETWEC2017) (pp. 693-1-693-6)
- Graham, N. A. J., Wilson, S. K., Carr, P., Hoey, A. S., Jennings, S., & MacNeil, M. A. (2018). Seabirds enhance coral reef productivity and functioning in the absence of invasive rats. *Nature*, 559(7713), 250-253. <https://doi.org/10.1038/s41586-018-0202-3>
- Green, R. H., Jones, N. L., Rayson, M. D., Lowe, R. J., Bluteau, C. E., & Ivey, G. N. (2018). Nutrient fluxes into an isolated coral reef atoll by tidally driven internal bores: Internal tidal bores at a coral reef atoll. *Limnology and Oceanography*. <https://doi.org/10.1002/lno.11051>
- Green, R. H., Lowe, R. J., & Buckley, M. L. (2018). Hydrodynamics of a tidally forced coral reef atoll. *Journal of Geophysical Research: Oceans*, 123(10), 7084-7101. <https://doi.org/10.1029/2018JC013946>

- Greenwood, P. F., Mohammed, L., Grice, K., McCulloch, M. T., & Schwark, L. (2018). The application of compound-specific sulfur isotopes to the oil–source rock correlation of Kurdistan petroleum. *Organic Geochemistry*, 117, 22-30. <https://doi.org/10.1016/j.orggeochem.2017.11.016>
- Griffiths, T., Draper, S., Cheng, L., Tong, F., Fogliani, A., White, D., ... Lourie, C. (2018). Subsea cable stability on rocky seabeds - Comparison of field observations against conventional and novel design methods. In *Pipelines, Risers, and Subsea Systems (Vol. 5). Spain: The American Society of Mechanical Engineers (ASME)*. <https://doi.org/10.1115/OMAE2018-77130>
- Griffiths, T., Draper, S., White, D., Cheng, L., An, H., & Fogliani, A. (2018). Improved stability design of subsea pipelines on mobile seabeds: Learnings from the stablepipe JIP. In *Pipelines, Risers, and Subsea Systems (Vol. 5). USA: The American Society of Mechanical Engineers (ASME)*. <https://doi.org/10.1115/OMAE2018-77217>
- Griffiths, T., Draper, S., White, D., Cheng, L., An, H., Tong, F., & Fogliani, A. (2018). Pipeline and cable stability: Updated state of the art. In *ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering: Pipelines, Risers, and Subsea Systems (Vol. 5). Spain: The American Society of Mechanical Engineers (ASME)*. <https://doi.org/10.1115/OMAE2018-77736>
- Grottoli, A. G., Martins, P. D., Wilkins, M. J., Johnston, M. D., Warner, M. E., Cai, W. J., ... Schoepf, V. (2018). Coral physiology and microbiome dynamics under combined warming and ocean acidification. *PLoS One*, 13(1), [e0191156]. <https://doi.org/10.1371/journal.pone.0191156>
- Gruber, R. K., Lowe, R. J., & Falter, J. L. (2018). Benthic uptake of phytoplankton and ocean-reef exchange of particulate nutrients on a tide-dominated reef. *Limnology and Oceanography*, 63(4), 1545-1561. <https://doi.org/10.1002/lno.10790>
- Guilherme Pereira, C., Clode, P. L., Oliveira, R. S., & Lambers, H. (2018). Eudicots from severely phosphorus-impooverished environments preferentially allocate phosphorus to their mesophyll. *New Phytologist*, 218(3), 959-973. <https://doi.org/10.1111/nph.15043>
- Gunawardena, R., White, B., Hailu, A., Wijeratne, S., & Pandit, R. (2018). Policy choice and riverine water quality in developing countries: An integrated hydro-economic modelling approach. *Journal of Environmental Management*, 227, 44-54. <https://doi.org/10.1016/j.jenvman.2018.08.065>
- Hammerschlag, N., Barley, S. C., Irschick, D. J., Meeuwig, J. J., Nelson, E. R., & Meekan, M. G. (2018). Predator declines and morphological changes in prey: Evidence from coral reefs depleted of sharks. *Marine Ecology Progress Series*, 586, 127-139. <https://doi.org/10.3354/meps12426>
- Han, Q., & Keesing, J. K. (2018). A new species of Philocheras (Decapoda: Caridea: Crangonidae) from Western Australia, with a key to all species of this genus worldwide. *Zootaxa*, 4382(1), 175-184. <https://doi.org/10.11646/zootaxa.4382.1.7>
- Hanchi, M., Thibaud, M. C., Légeret, B., Kuwata, K., Pochon, N., Beisson, F., ... Javot, H. (2018). The phosphate fast-responsive genes PECP1 and PPsPase1 affect phosphocholine and phosphoethanolamine content. *Plant Physiology*, 176(4), 2943-2962. <https://doi.org/10.1104/pp.17.01246>
- Harris, D. L., Rovere, A., Casella, E., Power, H., Canavesio, R., Collin, A., ... Parravicini, V. (2018). Coral reef structural complexity provides important coastal protection from waves under rising sea levels. *Science Advances*, 4(2), [4350]. <https://doi.org/10.1126/sciadv.aao4350>
- Harris, R. M. B., Beaumont, L. J., Vance, T. R., Tozer, C. R., Remenyi, T. A., Perkins-Kirkpatrick, S. E., ... Bowman, D. M. J. S. (2018). Biological responses to the press and pulse of climate trends and extreme events. *Nature Climate Change*, 8(7), 579-587. <https://doi.org/10.1038/s41558-018-0187-9>
- Hasan, A., Kiet, T. W., Sahdi, F., Linda Taib, S. N., Sutan, N. M., Aziz, B. A., & Fourie, A. (2018). Temperature change and the total stress anomaly in paste backfill. *International Journal of GEOMATE*, 14(44), 90-95. <https://doi.org/10.21660/2018.44.7121>
- Hasan, A., Sahdi, F., Sutan, N. M., Mijan, N. A., & Hamdan, S. (2018). Strength Behavior of Sedimented Gypsum Slurry. *Geotechnical Testing Journal*, 41(6), 1155-1165. <https://doi.org/10.1520/GTJ20170164>
- Haworth, B. T., Biggs, E., Duncan, J., Wales, N., Boruff, B., & Bruce, E. (2018). Geographic information and communication technologies for supporting smallholder agriculture and climate resilience. *Climate*, 6(4), [97]. <https://doi.org/10.3390/cli6040097>
- Hayat, M., Bennamoun, M., & An, S. (2018). Response to “Ghost Numbers”. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 40(10), [8454023]. <https://doi.org/10.1109/TPAMI.2018.2789444>
- Hayes, P. E., Clode, P. L., Oliveira, R. S., & Lambers, H. (2018). Proteaceae from phosphorus-impooverished habitats preferentially allocate phosphorus to photosynthetic cells: An adaptation improving phosphorus-use efficiency. *Plant Cell and Environment*, 41(3), 605-619. <https://doi.org/10.1111/pce.13124>
- Hays, G. C., Alcoverro, T., Christianen, M. J. A., Duarte, C. M., Hamann, M., Macreadie, P. I., ... Esteban, N. (2018). New tools to identify the location of seagrass meadows: Marine grazers as habitat indicators. *Frontiers in Marine Science*, 4(FEB), [9]. <https://doi.org/10.3389/fmars.2018.00009>
- He, J. (2018). From Country-of-Origin Labelling (COOL) to Seafood Import Monitoring Program (SIMP): How Far Can Seafood Traceability Rules Go? *Marine Policy*, 96, 163-174. <https://doi.org/10.1016/j.marpol.2018.08.003>

- Heins, E., Bienen, B., Randolph, M. F., & Grabe, J. (2018). Dynamic load tests on large diameter open-ended piles in sand performed in the centrifuge. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Proceedings of the 9th International Conference on Physical Modelling in Geotechnics (ICPMG 2018): Physical Modelling in Geotechnics* (Vol. 1, pp. 707-712). London, United Kingdom: Taylor & Francis.
- Heins, E., Bienen, B., Randolph, M., & Grabe (2018). Effect of installation method on static and dynamic load test response for large diameter open-ended piles in sand. *The International Journal of Physical Modelling in Geotechnics*. <https://doi.org/10.1680/jphmg.18.00028>
- Hejazi, R., Grime, A., Randolph, M., & Efthymiou, M. (2018). An ANN-based framework for rapid spectral fatigue analysis of steel catenary risers. In *Offshore Technology Conference Asia 2018, OTCA 2018 Malaysia: Offshore Technology Conference*.
- Hejazi, R., Grime, A., Randolph, M., & Efthymiou, M. (2018). Assessing the impact of riser-soil interaction model on the fatigue life of large diameter SCRs. In *Pipelines, Risers, and Subsea Systems (Vol. 5)*. USA: The American Society of Mechanical Engineers (ASME). <https://doi.org/10.1115/OMAE2018-78713>
- Hempson, T. N., Graham, N. A. J., Macneil, M. A., Bodin, N., & Wilson, S. K. (2018). Regime shifts shorten food chains for mesopredators with potential sublethal effects. *Functional Ecology*, 32(3), 820-830. <https://doi.org/10.1111/1365-2435.13012>
- Hempson, T. N., Graham, N. A. J., Macneil, M. A., Hoey, A. S., & Wilson, S. K. (2018). Ecosystem regime shifts disrupt trophic structure. *Ecological Applications*, 28(1), 191-200. <https://doi.org/10.1002/eap.1639>
- Herduin, M., Gaudin, C., & Johanning, L. (2018). Anchor sharing in sands: Centrifuge modelling and soil element testing to characterise multi-directional loadings. In *Offshore Geotechnics; Honoring Symposium for Professor Bernard Molin on Marine and Offshore Hydrodynamics* (Vol. 9). [V009T10A030] *The American Society of Mechanical Engineers* (ASME). <https://doi.org/10.1115/OMAE2018-77419>
- Hetzel, Y., Pattiaratchi, C., & Mihanović, H. (2018). Exchange flow variability between hypersaline Shark Bay and the ocean. *Journal of Marine Science and Engineering*, 6(2), [65]. <https://doi.org/10.3390/jmse6020065>
- Heyward, A., Colquhoun, J., Cripps, E., McCorry, D., Stowar, M., Radford, B., ... Battershill, C. (2018). No evidence of damage to the soft tissue or skeletal integrity of mesophotic corals exposed to a 3D marine seismic survey. *Marine Pollution Bulletin*, 129(1), 8-13. <https://doi.org/10.1016/j.marpolbul.2018.01.057>
- Hickey, S. M. (2018). Living at Extremes: A spatio-temporal approach to understand environmental drivers for mangrove ecosystems, and their carbon potential. <https://doi.org/10.4225/23/5aa1e50bcfa94>
- Hickey, S. M., Callow, N. J., Phinn, S., Lovelock, C. E., & Duarte, C. M. (2018). Spatial complexities in aboveground carbon stocks of a semi-arid mangrove community: A remote sensing height-biomass-carbon approach. *Estuarine, Coastal and Shelf Science*, 200, 194-201. <https://doi.org/10.1016/j.ecss.2017.11.004>
- Hobday, A. J., Oliver, E. C. J., Gupta, A. S., Benthuisen, J. A., Burrows, M. T., Donat, M. G., ... Smale, D. A. (2018). Categorizing and naming marine heatwaves. *Oceanography*, 31(2 Special Issue), 162-173. <https://doi.org/10.5670/oceanog.2018.205>
- Høj, L., Levy, N., Baillie, B. K., Clode, P. L., Strohmaier, R. C., Siboni, N., ... Bourne, D. G. (2018). Crown-of-thorns sea star *Acanthaster cf. solaris* has tissue-characteristic microbiomes with potential roles in health and reproduction. *Applied and Environmental Microbiology*, 84(13), [e00181-18]. <https://doi.org/10.1128/AEM.00181-18>
- Hooper, P., Boruff, B., Beesley, B., Badland, H., & Giles-Corti, B. (2018). Testing spatial measures of public open space planning standards with walking and physical activity health outcomes: Findings from the Australian national liveability study. *Landscape and Urban Planning*, 171, 57-67. <https://doi.org/10.1016/j.landurbplan.2017.12.001>
- Hu, P., Cassidy, M. J., & Randolph, M. F. (2018). Bearing capacity on sand overlying clay: An analytical model for predicting post peak behaviour. *Marine Structures*, 59, 94-104. <https://doi.org/10.1016/j.marstruc.2018.01.004>
- Huang, P., Kilminster, K., Larsen, S., & Hipsey, M. R. (2018). Assessing artificial oxygenation in a riverine salt-wedge estuary with a three-dimensional finite-volume model. *Ecological Engineering*, 118, 111-125. <https://doi.org/10.1016/j.ecoleng.2018.04.020>
- Hughes, T. P., Anderson, K. D., Connolly, S. R., Heron, S. F., Kerry, J. T., Lough, J. M., ... Wilson, S. K. (2018). Spatial and temporal patterns of mass bleaching of corals in the Anthropocene. *Science*, 359(6371), 80-83. <https://doi.org/10.1126/science.aan8048>
- Husin, H., Aman, Z., & Hwai Chyuan, O. (2018). Correlation between rate of deposition and temperature of asphaltene particles. *Materials Today: Proceedings*, 5(10), 22128-22136. <https://doi.org/10.1016/j.matpr.2018.07.080>
- Husin, H., Elraies, K. A., Choi, H. J., & Aman, Z. (2018). Influence of graphene nanoplatelet and silver nanoparticle on the rheological properties of water-based mud. *Applied Sciences* (Switzerland), 8(8), [1386]. <https://doi.org/10.3390/app8081386>

- Iftekhar, M. S., Burton, M., Zhang, F., Kininmonth, I., & Fogarty, J. (2018). Understanding social preferences for land use in wastewater treatment plant buffer zones. *Landscape and Urban Planning*, 178, 208-216. <https://doi.org/10.1016/j.landurbplan.2018.05.025>
- Irvine, L. G., Thums, M., Hanson, C. E., McMahon, C. R., & Hindell, M. A. (2018). Evidence for a widely expanded humpback whale calving range along the Western Australian coast. *Marine Mammal Science*, 34(2), 294-310. <https://doi.org/10.1111/mms.12456>
- Ivatek-Šahdan, S., Stanešić, A., Tudor, M., Odak Plenković, I., & Janeković, I. (2018). Impact of SST on heavy rainfall events on eastern Adriatic during SOP1 of HyMeX. *Atmospheric Research*, 200, 36-59. <https://doi.org/10.1016/j.atmosres.2017.09.019>
- Ivey, G. N., Bluteau, C. E., & Jones, N. L. (2018). Quantifying Diapycnal Mixing in an Energetic Ocean: MIXING IN AN ENERGETIC OCEAN. *Journal of Geophysical Research: Oceans*, 123(1), 346-357. <https://doi.org/10.1002/2017JC013242>
- Jaakkola, K., Guarino, E., Donegan, K., & King, S. L. (2018). Bottlenose dolphins can understand their partner's role in a cooperative task. *Proceedings of the Royal Society B: Biological Sciences*, 285(1887), [20180948]. <https://doi.org/10.1098/rspb.2018.0948>
- Jamil, N., Husin, H., Aman, Z., & Hassan, Z. (2018). Investigation on the effect of THF on Nitrogen Hydrate formation under isobaric condition. *IOP Conference Series: Materials Science and Engineering*, 334(1), [012056]. <https://doi.org/10.1088/1757-899X/334/1/012056>
- Jerman, J., Mašín, D., Ragni, R., & Bienen, B. (2018). Modelling of spudcan foundation penetrations using an improved hypoplastic model for soft clays. In T. Qiu, B. Tiwari, & Z. Zhang (Eds.), *Proceedings of GeoShanghai 2018 International Conference: Advances in Soil Dynamics and Foundation Engineering* (pp. 749-756). Singapore: Springer.
- Jiang, H., & Cheng, L. (2018). Hydrodynamic characteristics of flow past a square cylinder at moderate Reynolds numbers. *Physics of Fluids*, 30(10), [104107]. <https://doi.org/10.1063/1.5050439>
- Jiang, H., Cheng, L., & An, H. (2018). Three-dimensional wake transition of a square cylinder. *Journal of Fluid Mechanics*, 842, 102-127. <https://doi.org/10.1017/jfm.2018.104>
- Jin, P., Zhou, B., Zhang, H., Chen, L., & Zhang, L. (2018). Ringing of the roll motion of a two-dimensional barge in focused wave groups. *Journal of Marine Science and Technology (Japan)*. <https://doi.org/10.1007/s00773-018-0602-y>
- Johnson, A. J., Statton, J., Orth, R. J., & Kendrick, G. A. (2018). A sediment bioturbator bottleneck to seedling recruitment for the seagrass *Posidonia australis*. *Marine Ecology Progress Series*, 595, 89-103. <https://doi.org/10.3354/meps12550>
- Judge, F. M., Orszaghova, J., Taylor, P., & Borthwick, A. G. L. (2018). A 2DH hybrid Boussinesq-NSWE solver for near-shore hydrodynamics. *Coastal Engineering*, 142, 9-26. <https://doi.org/10.1016/j.coastaleng.2018.08.014>
- Juhel, J. B., Vigliola, L., Mouillot, D., Kulbicki, M., Letessier, T. B., Meeuwig, J. J., & Wantiez, L. (2018). Reef accessibility impairs the protection of sharks. *Journal of Applied Ecology*, 55(2), 673-683. <https://doi.org/10.1111/1365-2664.13007>
- Jun, M. J., Kim, Y. H., Hossain, M. S., Cassidy, M. J., Hu, Y., & Park, S. G. (2018). Optimising spudcan shape for mitigating horizontal and moment loads induced on a spudcan penetrating near a conical footprint. *Applied Ocean Research*, 79, 62-73. <https://doi.org/10.1016/j.apor.2018.07.009>
- Jun, M. J., Kim, Y. H., Hossain, M. S., Cassidy, M. J., Hu, Y., & Park, S. G. (2018). Physical modelling of reinstallation of a novel spudcan nearby existing footprint. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics* (Vol. 1, pp. 615-621). UK: CRC Press/Balkema. <https://doi.org/10.1201/9780429438660-91>
- Jun, M. J., Kim, Y. H., Hossain, M. S., Cassidy, M. J., Hu, Y., & Sim, J. W. (2018). Numerical investigation of novel spudcan shapes for easing spudcan-footprint interactions. *Journal of Geotechnical and Geoenvironmental Engineering*, 144(9), [04018055]. [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0001925](https://doi.org/10.1061/(ASCE)GT.1943-5606.0001925)
- Jun, M., Kim, Y., Hossain, M., Cassidy, M., Hu, Y., & Park, S. (2018). Physical and Numerical Modelling of Novel Spudcan to Ease Spudcan-Footprint Interactions. In *Proceedings of the Twenty-eighth International Ocean and Polar Engineering Conference* (pp. 557-561). Japan: International Society of Offshore and Polar Engineers.
- Jun, M., Kim, Y., Hossain, M., Cassidy, M., Hu, Y., & Sim, J. (2018). Physical modelling of reinstallation of novel spudcan nearby existing footprint. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics: The 9th International Conference on Physical Modelling in Geotechnics* (pp. 615-621). UK: Taylor & Francis.
- Karima, A., & Oldham, C. (2018). *Performance of greenwalls in Mediterranean climates: a literature review*. UWA.
- Katti, C., Stacey-Solis, M., Coronet-Rojas, N. A., & Davies, W. I. L. (2018). Opsin-based photopigments expressed in the retina of a South American pit viper, *Bothrops atrox* (Viperidae). *Visual Neuroscience*, 35, [027]. <https://doi.org/10.1017/S0952523818000056>
- Ke, Q., Bennamoun, M., An, S., Sohel, F., & Boussaid, F. (2018). Learning Clip Representations for Skeleton-based 3D Action Recognition. *IEEE Transactions on Image Processing*, 27(6), 2842-2855. <https://doi.org/10.1109/TIP.2018.2812099>
- Ke, Q., Bennamoun, M., Rahmani, H., An, S., Sohel, F., & Boussaid, F. (2018). Identity Adaptation for Person Re-identification. *IEEE Access*, 6, 48147-48155. [8452946]. <https://doi.org/10.1109/ACCESS.2018.2867898>

- Ke, Q., Liu, J., Bennamoun, M., An, S., Sohel, F., & Boussaid, F. (2018). Computer Vision for Human-Machine Interaction. In L. Marco, & G. M. Farinella (Eds.), *Computer Vision for Assistive Healthcare* (pp. 127-145). Academic Press.
- Ke, Q., Liu, J., Bennamoun, M., Rahmani, H., An, S., Sohel, F., & Boussaid, F. (2018). Global regularizer and temporal-aware cross-entropy for skeleton-based early action recognition. *Paper presented at Asia Conference on Computer Vision 2018, Perth, Australia*.
- Keesing, J. K. (2018). Rate of natural mortality in the sea star *Archaster angulatus* (Echinodermata Asteroidea). *Journal of the Marine Biological Association of the United Kingdom*, 98(7), 1689-1693. <https://doi.org/10.1017/S0025315417001126>
- Keesing, J. K., Halford, A. R., & Hall, K. C. (2018). Mortality rates of small juvenile crown-of-thorns starfish *Acanthaster planci* on the Great Barrier Reef: Implications for population size and larval settlement thresholds for outbreaks. *Marine Ecology Progress Series*, 597, 179-190. <https://doi.org/10.3354/meps12606>
- Kelley, J. L., Chapuis, L., Davies, W. I. L., & Collin, S. P. (2018). Sensory system responses to human-induced environmental change. *Frontiers in Ecology and Evolution*, 6(JUL), [95]. <https://doi.org/10.3389/fevo.2018.00095>
- Kelley, J., Grierson, P. F., Collin, S. P., & Davies, P. M. (2018). Habitat disruption and the identification and management of functional trait changes. *Fish and Fisheries*, 19(4), 716-728. <https://doi.org/10.1111/faf.12284>
- Kendrick, G., Fraser, M., & Vanderklift, M. (2018). Surviving the Extreme: Seagrasses of the Kimberley. In H. McGlashan, K. Coate, J. Gresham, & R. Hart (Eds.), *The Natural World of the Kimberley* (pp. 217-231). Perth: Kimberley Society Inc..
- Kendrick, G., Hovey, R., Lyons, M., Roelfsema, C. M., Ruiz Montoya, L., & Phinn, S. R. (2018). Australian Seagrass Seascapes: present understanding and future research. In A. Larkum, G. Kendrick, & P. Ralph (Eds.), *Seagrasses of Australia: Structure, Ecology and Conservation* (pp. 257-286). Netherlands: Springer.
- Khan, S., Naseem, I., Malik, M. A., Togneri, R., & Bennamoun, M. (2018). A Fractional Gradient Descent-Based RBF Neural Network. *Circuits, Systems and Signal Processing*, 37(12), 5311-5332. <https://doi.org/10.1007/s00034-018-0835-3>
- Khan, S., Naseem, I., Togneri, R., & Bennamoun, M. (2018). RAFF-Pred: Robust Prediction of Antifreeze Proteins using Localized Analysis of n-Peptide Compositions. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 15(1), 244-250. <https://doi.org/10.1109/TCBB.2016.2617337>
- Khan, S., Rahmani, H., Shah, S. A. A., & Bennamoun, M. (2018). A Guide to Convolutional Neural Networks for Computer Vision. (*Synthesis Lectures on Computer Vision*; Vol. 8, No. 1). Morgan & Claypool Publishers. <https://doi.org/10.2200/S00822ED1V01Y201712COV015>
- Khataza, R., Doole, G., Kragt, M., & Hailu, A. (2018). Information acquisition, learning and the adoption of conservation agriculture in Malawi: a discrete-time duration analysis. *Technological Forecasting and Social Change*, 132(July), 299-307.
- Kilminster, K., Hovey, R., Waycott, M., & Kendrick, G. (2018). Seagrasses of Southern and South-Western Australia. In A. Larkum, G. Kendrick, & P. Ralph (Eds.), *Seagrasses of Australia: Structure, Ecology and Conservation* (pp. 61-89). Netherlands: Springer.
- Kim, Y. H., Hossain, M. S., & Chang, K. (2018). Numerical investigation of novel dynamic installed fish anchors in clay and calcareous silt. *Ocean Engineering*, 163, 29-39. <https://doi.org/10.1016/j.oceaneng.2018.05.051>
- Kim, Y., Hossain, M., & Lee, J. K. (2018). Dynamic installation of a torpedo anchor in two-layered clays. *Canadian Geotechnical Journal*, 55(3), 446-454. <https://doi.org/10.1139/cgj-2016-0607>
- King, S., Friedman, W. R., Allen, S., Gerber, L., Jensen, F. H., Wittwer, S., ... Krützen, M. (2018). Bottlenose Dolphins Retain Individual Vocal Labels in Multi-level Alliances. *Current Biology*, 28(12), 1993-1999. <https://doi.org/10.1016/j.cub.2018.05.013>
- Klinkvort, R. T., Black, J., Bayton, S., Haigh, S., Madabhushi, G., Blanc, M., ... Gaudin, C. (2018). A review of modelling effects in centrifuge monopile testing in sand. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Proceedings of the 9th International Conference on Physical Modelling in Geotechnics* (V ol. 1, pp. 719-724). London: CRC Press.
- Koh, K. X. (2018). Centrifuge modelling and numerical analysis on suction caisson for offshore foundation systems. <https://doi.org/10.26182/5c3ff282897ac>
- Koh, K. X., Wang, D., & Hossain, M. S. (2018). Numerical simulation of caisson installation and dissipation in kaolin clay and calcareous silt. *Bulletin of Engineering Geology and the Environment*, 77(3), 953-962. <https://doi.org/10.1007/s10064-017-1091-7>
- Kotta, J., Wernberg, T., Jänes, H., Kotta, I., Nurkse, K., Pärnoja, M., & Orav-Kotta, H. (2018). Novel crab predator causes marine ecosystem regime shift. *Scientific Reports*, 8(1), [4956]. <https://doi.org/10.1038/s41598-018-23282-w>
- Krause-Jensen, D., Lavery, P., Serrano, O., Marba, N., Masque, P., & Duarte, C. M. (2018). Sequestration of macroalgal carbon: The elephant in the Blue Carbon room. *Biology Letters*, 14(6), [20180236]. <https://doi.org/10.1098/rsbl.2018.0236>
- Kreplins, T. L., Gaynor, A., Kennedy, M. S., Baudains, C. M., Adams, P., Bateman, P. W., & Fleming, P. A. (2018). What to call a dog? A review of the common names for Australian free-ranging dogs. *Pacific Conservation Biology*. <https://doi.org/10.1071/PC18018>

- Landau, S., Moriel, A., Livne, A., Zheng, M. H., Bouchbinder, E., & Levenberg, S. (2018). Tissue-Level Mechanosensitivity: Predicting and Controlling the Orientation of 3D Vascular Networks. *NANO LETTERS*, 18(12), 7698-7708. <https://doi.org/10.1021/acs.nanolett.8b03373>
- Langer, G., Sadekov, A., Nehrke, G., Baggini, C., Rodolfo-Metalpa, R., Hall-Spencer, J. M., ... Elderfield, H. (2018). Relationship between mineralogy and minor element partitioning in limpets from an Ischia CO₂ vent site provides new insights into their biomineralization pathway. *Geochimica et Cosmochimica Acta*, 236, 218-229. <https://doi.org/10.1016/j.gca.2018.02.044>
- Larkum, A. W. D., Kendrick, G., & Ralph, P. J. (Eds.) (2018). *Seagrasses of Australia: Structure, Ecology and Conservation*. Netherlands: Springer.
- Lashley, C. H., Roelvink, D., van Dongeren, A., Buckley, M. L., & Lowe, R. J. (2018). Nonhydrostatic and surfbeat model predictions of extreme wave run-up in fringing reef environments. *Coastal Engineering*, 137, 11-27. <https://doi.org/10.1016/j.coastaleng.2018.03.007>
- Law, E. A., Bennett, N. J., Ives, C. D., Friedman, R., Davis, K. J., Archibald, C., & Wilson, K. A. (2018). Equity trade-offs in conservation decision making. *Conservation Biology*, 32(2), 294-303. <https://doi.org/10.1111/cobi.13008>
- Law, N., Doney, B., Glover, H., Qin, Y., Aman, Z. M., Sercombe, T. B., ... Doyle, B. J. (2018). Characterisation of hyaluronic acid methylcellulose hydrogels for 3D bioprinting. *Journal of The Mechanical Behavior of Biomedical Materials*, 77, 389-399. <https://doi.org/10.1016/j.jmbbm.2017.09.031>
- Leckie, S. H. F., Draper, S., White, D. J., Cheng, L., Griffiths, T., & Fogliani, A. (2018). Observed changes to the stability of a subsea pipeline caused by seabed mobility. *Ocean Engineering*, 169, 159-176. <https://doi.org/10.1016/j.oceaneng.2018.07.059>
- Lee, H., Golicz, A. A., Bayer, P. E., Severn-Ellis, A. A., Chan, C. K. K., Batley, J., ... Edwards, D. (2018). Genomic comparison of two independent seagrass lineages reveals habitat-driven convergent evolution. *Journal of Experimental Botany*, 69(15), 3689-3702. <https://doi.org/10.1093/jxb/ery147>
- Lee, J. K., Jeong, S., & Kim, Y. (2018). Buckling of tapered friction piles in inhomogeneous soil. *Computers and Geotechnics*, 97, 1-6. <https://doi.org/10.1016/j.compgeo.2017.12.012>
- Lee, Y. B., Kim, E. M., Byun, H., Chang, H. K., Jeong, K., Aman, Z. M., ... Shin, H. (2018). Engineering spheroids potentiating cell-cell and cell-ECM interactions by self-assembly of stem cell microlayer. *Biomaterials*, 165, 105-120. <https://doi.org/10.1016/j.biomaterials.2018.02.049>
- Legge, S., Woinarski, J. CZ., Burbidge, A. A., Palmer, R., Ringma, J., Radford, J. Q., ... Bentley, J. (2018). Havens for threatened Australian mammals: the contributions of fenced areas and offshore islands to the protection of mammal species susceptible to introduced predators. *Wildlife Research*, 45(7), 627-644. <https://doi.org/10.1071/WR17172>
- Leong, Y. K., Du, M., Au, P. I., Clode, P., & Liu, J. (2018). *Microstructure of Sodium Montmorillonite Gels with Long Aging Time Scale*. *Langmuir*, 34(33), 9673-9682. <https://doi.org/10.1021/acs.langmuir.8b00213>
- Levas, S., Schoepf, V., Warner, M. E., Aschaffenburg, M., Baumann, J., & Grottoli, A. G. (2018). Long-term recovery of Caribbean corals from bleaching. *Journal of Experimental Marine Biology and Ecology*, 506, 124-134. <https://doi.org/10.1016/j.jembe.2018.06.003>
- Li, J., Hu, P., Uzielli, M., & Cassidy, M. J. (2018). Bayesian prediction of peak resistance of a spudcan penetrating sand-over-clay. *Geotechnique*, 68(10), 905-917. <https://doi.org/10.1680/jgeot.17.P.154>
- Lillicrap, A. M., Biermann, V., George, R. J., Gray, D. J., & Oldham, C. E. (2018). The distribution and origins of extremely acidic saline groundwaters in the south of Western Australia – Groundwater and digital mapping datasets provide new insights. *Journal of Hydrology*, 556, 717-731. <https://doi.org/10.1016/j.jhydrol.2017.11.044>
- Lim, V. W. S., Metaxas, P. J., Zhen, J., Stanwix, P. L., Johns, M. L., Aman, Z. M., & May, E. F. (2018). Subcooling and induction time measurements of probabilistic hydrate formation. In *Offshore Technology Conference Asia 2018, OTCA 2018 Malaysia: Offshore Technology Conference*.
- Lindley, J. (2018). *Nexus between unreported and unregulated fishing and other organised maritime crimes: chapter 9*. Canberra: Australian Institute of Criminology.
- Lindley, J. (2018). Using regulatory pluralism to achieve effective control of Somali piracy: a model for other piracy-prone regions. In L. Y. C. Chang, & R. Brewer (Eds.), *Criminal Justice and Regulation Revisited: Essays in Honour of Peter Grabosky* (pp. 109-131). (Routledge Frontiers of Criminal Justice). United Kingdom: Routledge.
- Lindley, J., & Techera, E. (2018). Motivators for IUU Fishing in the Indo-Pacific. In V. Mitsilegas, S. Hufnagel, A. Moiseienko, S. Yanan, & L. Mingxiang (Eds.), *Transnational Crime: European and Chinese Perspectives* (pp. 235-251). (The Queen Mary-Renmin series on comparative criminal justice issues). Routledge.
- Ling, N. N. A., Haber, A., Graham, B. F., Aman, Z. M., May, E. F., Fridjonsson, E. O., & Johns, M. L. (2018). Quantifying the Effect of Salinity on Oilfield Water-in-Oil Emulsion Stability. *Energy and Fuels*, 32(9), 10042-10049. <https://doi.org/10.1021/acs.energyfuels.8b02143>
- Lisney, T. J., Wagner, H. J., & Collin, S. P. (2018). Ontogenetic shifts in the number of axons in the olfactory tract and optic nerve in two species of deep-sea grenadier fish (Gadiformes: Macrouridae: Coryphaenoides). *Frontiers in Ecology and Evolution*, 6(NOV), [168]. <https://doi.org/10.3389/fevo.2018.00168>

- Liu, D., Wang, Y., Wang, Y., & Keesing, J. K. (2018). Ocean fronts construct spatial zonation in microfossil assemblages. *Global Ecology and Biogeography*, 27(10), 1225-1237. <https://doi.org/10.1111/geb.12779>
- Liu, H. (2018). An experimental and numerical study of runout from a tailings dam failure. <https://doi.org/10.4225/23/5ac6e5ef2b0f4>
- Liu, J. (2018). Numerical modelling of seabed trench and its effect on the structural response of steel catenary risers. <https://doi.org/10.4225/23/5ad4331822a1a>
- Liu, J., Li, J., Li, P., Lin, G., Xu, T., & Chen, L. (2018). New application of the isogeometric boundary representations methodology with SBFEM to seepage problems in complex domains. *Computers and Fluids*, 174, 241-255. <https://doi.org/10.1016/j.compfluid.2018.08.004>
- Lloyd, N. S., Sadekov, A. Y., & Misra, S. (2018). Application of 1013 ohm Faraday cup current amplifiers for boron isotopic analyses by solution mode and laser ablation multicollector inductively coupled plasma mass spectrometry. *Rapid Communications in Mass Spectrometry*, 32(1), 9-18. <https://doi.org/10.1002/rcm.8009>
- Lu, Y., Zhou, T., Cheng, L., Zhao, W., & Jiang, H. (2018). Dependence of critical filling level on excitation amplitude in a rectangular sloshing tank. *Ocean Engineering*, 156, 500-511. <https://doi.org/10.1016/j.oceaneng.2018.03.030>
- Lutz, N. D., Lemes, E., Krubitzer, L., Collin, S. P., Haverkamp, S., & Peichl, L. (2018). The rod signaling pathway in marsupial retinae. *PLoS One*, 13(8), [e0202089]. <https://doi.org/10.1371/journal.pone.0202089>
- Macreadie, P. I., McLean, D. L., Thomson, P. G., Partridge, J. C., Jones, D. O. B., Gates, A. R., ... Fowler, A. M. (2018). Eyes in the sea: Unlocking the mysteries of the ocean using industrial, remotely operated vehicles (ROVs). *Science of the Total Environment*, 634, 1077-1091. <https://doi.org/10.1016/j.scitotenv.2018.04.049>
- Maginn, P. J., McKenzie, F., Mazzarol, T. W., Radford, B., & Hutchinson, J. (2018). Male, stale and pale? Gender representation in metropolitan local government in Western Australia. In State of Australian Cities Conference 2017 (pp. 1-13). *Australia: State of Australian Cities Research Network*. <https://doi.org/10.4225/50/5b30344c34303>
- Mahmood, A., Bennamoun, M., An, S., & Soheli, F. (2018). Resfeats: Residual network based features for image classification. In *2017 IEEE International Conference on Image Processing (ICIP)* (pp. 1597-1601). China: Wiley-IEEE Press. <https://doi.org/10.1109/ICIP.2017.8296551>
- Mahmood, A., Bennamoun, M., An, S., Soheli, F. A., Boussaid, F., Hovey, R., ... Fisher, R. B. (2018). Deep Image Representations for Coral Image Classification. *IEEE Journal of Oceanic Engineering*. <https://doi.org/10.1109/JOE.2017.2786878>
- Mamouni Limnios, E., Mazzarol, T., Soutar, G., & Siddique, K. (2018). The member wears four hats: a member identification framework for co-operative enterprises. *Journal of Co-operative Organization and Management*, 6(1), 20-33. <https://doi.org/10.1016/j.jcom.2018.03.003>
- Marchitto, T. M., Bryan, S. P., Doss, W., McCulloch, M. T., & Montagna, P. (2018). A simple biomineralization model to explain Li, Mg, and Sr incorporation into aragonitic foraminifera and corals. *Earth and Planetary Science Letters*, 481, 20-29. <https://doi.org/10.1016/j.epsl.2017.10.022>
- Martin, B. C., Bougoure, J., Ryan, M. H., Bennett, W. W., Colmer, T. D., Joyce, N. K., ... Kendrick, G. A. (2018). Oxygen loss from seagrass roots coincides with colonisation of sulphide-oxidising cable bacteria and reduces sulphide stress. *ISME Journal*. <https://doi.org/10.1038/s41396-018-0308-5>
- Martin, B. C., Gleeson, D., Statton, J., Siebers, A. R., Grierson, P., Ryan, M. H., & Kendrick, G. A. (2018). Low light availability alters root exudation and reduces putative beneficial microorganisms in seagrass roots. *Frontiers in Microbiology*, 8(JAN), [2667]. <https://doi.org/10.3389/fmicb.2017.02667>
- Martin, B. C., Statton, J., Siebers, A. R., Grierson, P. F., Ryan, M. H., & Kendrick, G. A. (2018). Colonizing tropical seagrasses increase root exudation under fluctuating and continuous low light. *Limnology and Oceanography*, 63(S1), S1-S498. <https://doi.org/10.1002/lno.10746>
- Martínez, B., Radford, B., Thomsen, M. S., Connell, S. D., Carreño, F., Bradshaw, C. J. A., ... Wernberg, T. (2018). Distribution models predict large contractions of habitat-forming seaweeds in response to ocean warming. *Diversity and Distributions*, 24(10), 1350-1366. <https://doi.org/10.1111/ddi.12767>
- May, E. F., Lim, V. W. S., Metaxas, P. J., Du, J., Stanwix, P. L., Rowland, D., ... Aman, Z. M. (2018). Gas hydrate formation probability distributions: The effect of shear and comparisons with nucleation theory. *Langmuir*, 34(10), 3186-3196. <https://doi.org/10.1021/acs.langmuir.7b03901>
- Mazzarol, T. W., & Clark, D. (2018). The evolution of small business policy in Australia and New Zealand. In T. Cooney (Ed.), *Understanding the Development of Small Business Policy* (1 ed.). Routledge.
- Mazzarol, T. W., Clark, D., Reboud, S., & Mamouni Limnios, E. A. (2018). Developing a conceptual framework for the co-operative and mutual enterprise business model. *Journal of Management & Organization*, 24(4). <https://doi.org/10.1017/jmo.2018.29>
- Mazzarol, T., Clark, D., & Reboud, S. (2018). Economic Gardening: What it is and what it does for the generation of jobs and economic growth. In M. Miles, M. Battisti, A. Lau, & M. Terziovski (Eds.), *Economic Gardening: The role of entrepreneurship, innovation and small business ecosystems in regional, rural and international development* (1 ed., pp. 1-33). (SEAAZ Research Book Series). Prahan VIC Australia: Tilde Publishing and Distribution.
- McCauley, G., Wolgamot, H., Orszaghova, J., & Draper, S. (2018). Linear hydrodynamic modelling of arrays of submerged oscillating cylinders. *Applied Ocean Research*, 81, 1-14. <https://doi.org/10.1016/j.apor.2018.09.012>

- McCulloch, M. T., D'Olivo, J. P., Falter, J., Georgiou, L., Holcomb, M., Montagna, P., & Trotter, J. A. (2018). Boron Isotopic Systematics in Scleractinian Corals and the Role of pH Up-regulation: Boron Isotopes: The Fifth Element. In H. Marschall, & G. Foster (Eds.), *Boron Isotopes: The Fifth Element* (pp. 145-162). (Advances in Isotope Geochemistry). Cham: Springer International Publishing AG. https://doi.org/10.1007/978-3-319-64666-4_6
- McDonald, J. (Artist), & Veth, P. (Author). (2018). Aboriginal people lived in Australia's desert interior 50,000 years ago, earlier than first thought. Web publication/site, *The Conversation*. Retrieved from <https://theconversation.com/aboriginal-people-lived-in-australias-desert-interior-50-000-years-ago-earlier-than-first-thought-102111>
- McDonald, J., Reynen, W., Ditchfield, K., Dortch, J., Leopold, M., Stephenson, B., ... Veth, P. (2018). Murujuga Rockshelter: First evidence for Pleistocene occupation on the Burrup Peninsula. *Quaternary Science Reviews*, 193, 266-287.
- McDonald, J., Reynen, W., Petchey, F., Ditchfield, K., Byrne, C., Vannieuwenhuysse, D., ... Veth, P. (2018). Karnatukul (Serpent's glen): A new chronology for the oldest site in Australia's Western Desert. *PLoS One*, 13(9), [e0202511]. <https://doi.org/10.1371/journal.pone.0202511>
- McGowan, J., Bode, M., Holden, M. H., Davis, K., Krueck, N. C., Beger, M., ... Possingham, H. P. (2018). Ocean zoning within a sparing versus sharing framework. *Theoretical Ecology*, 11(2), 245-254. <https://doi.org/10.1007/s12080-017-0364-x>
- McKeown, T., & Mazzarol, T. W. (2018). Enabling Safe and Healthy Workplaces for Small Business. Canberra: Australian Chamber of Commerce and Industry.
- McKeown, T., Mazzarol, T., Rice, J., Soutar, G., Hanson, B., & Adapa, S. (2018). Inspiring Future Workplaces: An Australian and NZ Small Business Perspective. New Zealand: Small Enterprise Association of Australia and New Zealand (SEANZ).
- McLean, D. L., Macreadie, P., White, D. J., Thomson, P. G., Fowler, A., Gates, A. R., ... Partridge, J. C. (2018). Understanding the global scientific value of industry ROV data, to quantify marine ecology and guide offshore decommissioning strategies. *In Offshore Technology Conference Asia 2018, OTCA 2018 [OTC-28312-MS] Malaysia: Offshore Technology Conference*. <https://doi.org/10.4043/28312-MS>
- McLean, D. L., Taylor, M. D., Partridge, J. C., Gibbons, B., Langlois, T. J., Malseed, B. E., ... Bond, T. (2018). Fish and habitats on wellhead infrastructure on the north west shelf of Western Australia. *Continental Shelf Research*, 164, 10-27. <https://doi.org/10.1016/j.csr.2018.05.007>
- McMahon, K., Sinclair, E., van Dijk, K. J., Hernawan, U. E., Verduin, J. J., & Waycott, M. (2018). Genetic connectivity in tropical and temperate Australian seagrass species In Seagrasses of Australia. In A. W. D. Larkum, G. A. Kendrick, & P. J. Ralph (Eds.), *Seagrasses of Australia: Structure, Ecology and Conservation* (pp. 155-194). Springer International Publishing.
- McNeill, A., Clifton, J., & Harvey, E. (2018). Attitudes to a marine protected area are associated with perceived social impacts. *Marine Policy*, 94, 106-118. <https://doi.org/10.1016/j.marpol.2018.04.020>
- Međugorac, I., Orlić, M., Janeković, I., Pasarić, Z., & Pasarić, M. (2018). Adriatic storm surges and related cross-basin sea-level slope. *Journal of Marine Systems*, 181, 79-90. <https://doi.org/10.1016/j.jmarsys.2018.02.005>
- Meginnis, K., Burton, M., Chan, R., & Rigby, D. (2018). Strategic bias in discrete choice experiments. *Journal of Environmental Economics and Management*. <https://doi.org/10.1016/j.jeem.2018.08.010>
- Mihanović, H., Janeković, I., Vilibić, I., Kovačević, V., & Bensi, M. (2018). Modelling Interannual Changes in Dense Water Formation on the Northern Adriatic Shelf. *Pure and Applied Geophysics*, 175(11), 4065-4081. <https://doi.org/10.1007/s00024-018-1935-5>
- Milne, I. A., & Graham, J. M. R. (2018). Vortex shedding of hulls in close proximity with relative motion. *In Proceedings of the ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering: OMAE 2018* (Vol. 7A). [V07AT06A037] (Proceedings of the ASME International Conference on Ocean Offshore and Arctic Engineering). USA: AMER SOC MECHANICAL ENGINEERS. <https://doi.org/10.1115/OMAE2018-77151>, <https://doi.org/10.1115/OMAE2018-77151>
- Milne, I. A., & Zed, M. (2018). Deriving directional wave spectra from ship motions. *In Offshore Technology Conference Asia 2018 (Vol. 2, pp. 876-886)*. Richardson, Texas: Offshore Technology Conference.
- Milne, I. A., & Zed, M. (2018). The application of numerically-derived ocean wave spectra to floating bodies. *Paper presented at The 3rd Australasian Conference on Wave Science, Auckland, New Zealand*.
- Milne, I., & Zed, M. (2018). Full-scale validation of the hydrodynamic motions of a ship derived from a numerical hindcast. *Ocean Engineering*, 168, 83-94. <https://doi.org/10.1016/j.oceaneng.2018.08.039>
- Mitch, W., Parker, K., Ghadouani, A., & Reichwaldt, E. (2018). Halogen radicals promote the photodegradation of microcystins in estuarine systems. *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY*, 255.
- Mitchell, J. D. (2018). Understanding and quantifying shark depredation in a recreational fishery in the Ningaloo region of Western Australia. <https://doi.org/10.26182/5ca6caad21fc5>
- Mitchell, J. D., McLean, D. L., Collin, S. P., & Langlois, T. J. (2018). Shark depredation in commercial and recreational fisheries. *Reviews in Fish Biology and Fisheries*, 28(4), 715-748. <https://doi.org/10.1007/s11160-018-9528-z>
- Mitchell, J. D., McLean, D. L., Collin, S. P., Taylor, S., Jackson, G., Fisher, R., & Langlois, T. J. (2018). Quantifying shark depredation in a recreational fishery in the Ningaloo Marine Park and Exmouth Gulf, Western Australia. *Marine Ecology Progress Series*, 587, 141-157. <https://doi.org/10.3354/meps12412>

- Mohr, H., Draper, S., White, D. J., & Cheng, L. (2018). The influence of permeability on the erosion rate of fine-grained marine sediments. *Coastal Engineering*, 140, 124-135. <https://doi.org/10.1016/j.coastaleng.2018.04.013>
- Morrissy, S. A., Kuteyi, T. O., Johns, M. L., May, E. F., Aman, Z. M., & McKay, S. F. (2018). Quantitative ranking and development of hydrate anti-agglomerants. In *Offshore Technology Conference Asia 2018, OTCA 2018 Malaysia: Offshore Technology Conference*.
- Morse, P., Huffard, C. L., Meekan, M. G., McCormick, M. I., & Zenger, K. R. (2018). Mating behaviour and postcopulatory fertilization patterns in the southern blue-ringed octopus, *Hapalochlaena maculosa*. *Animal Behaviour*, 136, 41-51. <https://doi.org/10.1016/j.anbehav.2017.12.004>
- Moustaka, M., Langlois, T. J., McLean, D., Bond, T., Fisher, R., Fearn, P., ... Evans, R. D. (2018). The effects of suspended sediment on coral reef fish assemblages and feeding guilds of north-west Australia. *Coral Reefs*, 37(3), 659-673. <https://doi.org/10.1007/s00338-018-1690-1>
- Muraleedharan, A., & Kimiaei, M. (2018). Comparing results of time domain fatigue design of steel catenary risers using linear and nonlinear riser soil interaction models under random waves. In *Offshore Technology Conference Asia 2018 (Vol. 3, pp. 1607-1619)*. [OTC-28571-MS] *United States*.
- Nanda, A., Beesley, L., Locatelli, L., Gersonius, B., Hipsey, M. R., & Ghadouani, A. (2018). Adaptation tipping points of a wetland under a drying climate. *Water (Switzerland)*, 10(2), [234]. <https://doi.org/10.3390/w10020234>
- Nanda, A., Rijke, J., Beesley, L. S., Gersonius, B., Hipsey, M. R., & Ghadouani, A. (2018). Matching ecosystem functions with adaptive ecosystem management: decision pathways to overcome institutional barriers. *Water*, 10, 672. <https://doi.org/10.3390/w10060672>
- Navarro, M., Kragt, M. E., Hailu, A., & Langlois, T. J. (2018). Recreational fishers' support for no-take marine reserves is high and increases with reserve age. *Marine Policy*, 96, 44-52. <https://doi.org/10.1016/j.marpol.2018.06.021>
- Neef, A., Bengel, L., Boruff, B., Pauli, N., Weber, E., & Varea, R. (2018). Climate adaptation strategies in Fiji: The role of social norms and cultural values. *World Development*, 107, 125-137. <https://doi.org/10.1016/j.worlddev.2018.02.029>
- Nguyen, B. N., Boruff, B., & Tonts, M. (2018). Indicators of mining in development: A QM methodology investigation of two gold mines in Quang Nam province, Vietnam. *Resources Policy*, 57, 147-155. <https://doi.org/10.1016/j.resourpol.2018.02.014>
- Nguyen, N., Boruff, B., & Tonts, M. (2018). Fool's gold: Understanding social, economic and environmental impacts from gold mining in Quang Nam province, Vietnam. *Sustainability (Switzerland)*, 10(5), [1355]. <https://doi.org/10.3390/su10051355>
- Ning, D. Z., Zhao, X. L., Chen, L. F., & Zhao, M. (2018). Hydrodynamic performance of an array of wave energy converters integrated with a pontoon-type breakwater. *Energies*, 11(3), [en11030685]. <https://doi.org/10.3390/en11030685>
- Norris, B. W. E., Charlton, T. B., Johns, M. L., May, E. F., & Aman, Z. M. (2018). Risk-based flow assurance design for natural gas hydrate production systems. In *Offshore Technology Conference Asia 2018, OTCA 2018 Offshore Technology Conference*.
- O'Brien, K. R., Waycott, M., Maxwell, P., Kendrick, G. A., Udy, J. W., Ferguson, A. J. P., ... Dennison, W. C. (2018). Seagrass ecosystem trajectory depends on the relative timescales of resistance, recovery and disturbance. *Marine Pollution Bulletin*, 134, 166-176. <https://doi.org/10.1016/j.marpolbul.2017.09.006>
- O'Leary, B. C., Ban, N. C., Fernandez, M., Friedlander, A. M., García-Borboroglu, P., Golbuu, Y., ... Roberts, C. M. (2018). Addressing Criticisms of Large-Scale Marine Protected Areas. *Bioscience*, 68(5), 359-370. <https://doi.org/10.1093/biosci/biy021>
- Oliver, E. C. J., Donat, M. G., Burrows, M. T., Moore, P. J., Smale, D. A., Alexander, L. V., ... Wernberg, T. (2018). Longer and more frequent marine heatwaves over the past century. *Nature Communications*, 9(1), [1324]. <https://doi.org/10.1038/s41467-018-03732-9>
- O'Loughlin, C., Neubecker, S., & Gaudin, C. (2018). Anchoring systems: Anchor types, installation, and design. In J. Carlton, P. Jukes, & Y. S. Choo (Eds.), *Encyclopaedia of Marine and Offshore Engineering* (pp. 1-19). United States: John Wiley & Sons. <https://doi.org/10.1002/9781118476406.emoe534>
- O'Loughlin, C., Turner, M. J., Wager, G., Breen, J., & White, D. (2018). *UWA pipeline free span monitoring instrumentation: Device specifications and user guide*. Perth, WA: University of Western Australia.
- Olsen, Y. S., Fraser, M. W., Martin, B. C., Pomeroy, A., Lowe, R., Pedersen, O., & Kendrick, G. A. (2018). In situ oxygen dynamics in rhizomes of the seagrass *Posidonia sinuosa*: impact of light, water column oxygen, current speed and wave velocity. *Marine Ecology Progress Series*, 590, 67-77. <https://doi.org/10.3354/meps12477>
- Olsen, Y., Collier, C., Ow, Y. X., & Kendrick, G. (2018). Global Warming and Ocean Acidification: Effects on Australian Seagrass Ecosystems. In A. Larkum, G. Kendrick, & P. Ralph (Eds.), *Seagrasses of Australia: Structure, Ecology and Conservation* (pp. 705-742). Netherlands: Springer.
- Ong, J. J. L., Rountrey, A. N., Black, B. A., Nguyen, H. M., Coulson, P. G., Newman, S. J., ... Meekan, M. G. (2018). A boundary current drives synchronous growth of marine fishes across tropical and temperate latitudes. *Global Change Biology*, 24(5), 1894-1903. <https://doi.org/10.1111/gcb.14083>
- Orszaghova, J., Wolgamot, H., Draper, S., & Rafiee, A. (2018). Motion instabilities in tethered buoy WECs. In *Proceedings of the 4th Asian Wave and Tidal Energy Conference, Taipei, Taiwan, September 2018*

- Pan, Y., Wernberg, T., de Bettignies, T., Holmer, M., Li, K., Wu, J., ... Xiao, X. (2018). Screening of seaweeds in the East China Sea as potential bio-monitors of heavy metals. *Environmental Science and Pollution Research*, 25(17), 16640-16651. <https://doi.org/10.1007/s11356-018-1612-3>
- Pannell, D. J., Alston, J. M., Jeffrey, S., Buckley, Y. M., Vesk, P., Rhodes, J. R., ... Thamo, T. (2018). Policy-oriented environmental research: What is it worth? *Environmental Science and Policy*, 86, 64-71. <https://doi.org/10.1016/j.envsci.2018.05.005>
- Paris, C. B., Berenshtein, I., Trillo, M. L., Faillettaz, R., Olascoaga, M. J., Aman, Z. M., ... Joye, S. B. (2018). BP Gulf Science Data Reveals Ineffectual Subsea Dispersant Injection for the Macondo Blowout. *Frontiers in Marine Science*, 5, [389]. <https://doi.org/10.3389/fmars.2018.00389>
- Paterson, A. (2018). Historical Archaeology of Pearling in the Indian Ocean: Through the Lens of North West Australia. In K. Seetah (Ed.), *Connecting Continents: Archaeology and History in the Indian Ocean World* (pp. 171-203). (Indian Ocean Studies Series). Athens, Ohio: University of Ohio Press.
- Paterson, A. (2018). Once were foragers: The archaeology of agrarian Australia and the fate of Aboriginal land management. *Quaternary International*, 489, 4-16. <https://doi.org/10.1016/j.quaint.2016.12.047>
- Pauli, N., Abbott, L. K., Rex, R., Rex, C., & Solaiman, Z. M. (2018). A farmer-scientist investigation of soil carbon sequestration potential in a chronosequence of perennial pastures. *Land Degradation and Development*, 29(12), 4301-4312. <https://doi.org/10.1002/ldr.3184>
- Peng, Y., Liu, D., Wang, Y., Richard, P., & Keesing, J. K. (2018). Analyzing biases of nitrogen contents and $\delta^{15}\text{N}$ values arising from acidified marine sediments with different CaCO_3 concentrations. *Acta Oceanologica Sinica*, 37(8), 1-5. <https://doi.org/10.1007/s13131-018-1188-2>
- Permadi, D. B., Burton, M., Pandit, R., Race, D., & Walker, I. (2018). Local community's preferences for accepting a forestry partnership contract to grow pulpwood in Indonesia: A choice experiment study. *Forest Policy and Economics*, 91, 73-83. <https://doi.org/10.1016/j.forpol.2017.11.008>
- Permadi, D. B., Burton, M., Pandit, R., Race, D., Ma, C., Mendham, D., & Hardiyanto, E. B. (2018). Socio-economic factors affecting the rate of adoption of acacia plantations by smallholders in Indonesia. *Land Use Policy*, 76, 215-223. <https://doi.org/10.1016/j.landusepol.2018.04.054>
- Perry, C. T., Alvarez-Filip, L., Graham, N. A. J., Mumby, P. J., Wilson, S. K., Kench, P. S., ... MacDonald, C. (2018). Loss of coral reef growth capacity to track future increases in sea level. *Nature*, 558(7710), 396-400. <https://doi.org/10.1038/s41586-018-0194-z>
- Pessarrodona, A., Moore, P. J., Sayer, M. D. J., & Smale, D. A. (2018). Carbon assimilation and transfer through kelp forests in the NE Atlantic is diminished under a warmer ocean climate. *Global Change Biology*, 24(9), 4386-4398. <https://doi.org/10.1111/gcb.14303>
- Pomeroy, A. W. M., Lowe, R. J., Ghisalberti, M., Winter, G., Storlazzi, C., & Cuttler, M. (2018). Spatial Variability of Sediment Transport Processes Over Intratidal and Subtidal Timescales Within a Fringing Coral Reef System. *Journal of Geophysical Research: Earth Surface*, 123(5), 1013-1034. <https://doi.org/10.1002/2017JF004468>
- Primorac, R., Togneri, R., Bennamoun, M., & Sohel, F. (2018). Generalized joint sparse representation for multimodal biometric fusion of heterogeneous features. *Paper presented at 2018 IEEE International Workshop on Information Forensics and Security, Hong Kong, China*.
- Pyke, M. L., Toussaint, S., Close, P. G., Dobbs, R. J., Davey, I., George, K. J., ... Clifton, J. (2018). Wetlands need people: a framework for understanding and promoting Australian Indigenous wetland management. *Ecology and Society*, 23(3), [43]. <https://doi.org/10.5751/ES-10283-230343>
- Qin, Y., Pickering, P. F., Johns, M. L., May, E. F., & Aman, Z. M. (2018). A new rheology model for hydrate-in-oil slurries. In *Offshore Technology Conference Asia 2018, OTCA 2018 Malaysia: Offshore Technology Conference*.
- Quynh, C. N. T., Hailu, A., Schilizzi, S., & Iftekhar, S. (2018). Fisher participation in monitoring: Does it help reduce excessive investment in fishing capacity? *Fisheries Research*, 206, 138-149. <https://doi.org/10.1016/j.fishres.2018.04.024>
- Quynh, C. N. T., Schilizzi, S., Hailu, A., & Iftekhar, S. (2018). Fishers' Preference Heterogeneity and Trade-offs Between Design Options for More Effective Monitoring of Fisheries. *Ecological Economics*, 151, 22-33. <https://doi.org/10.1016/j.ecolecon.2018.04.032>
- Radford, J. Q., Woinarski, J. C. Z., Legge, S., Baseler, M., Bentley, J., Burbidge, A. A., ... Ringma, J. (2018). Degrees of population-level susceptibility of Australian terrestrial non-volant mammal species to predation by the introduced red fox (*Vulpes vulpes*) and feral cat (*Felis catus*). *Wildlife Research*, 45(7), 645-657. <https://doi.org/10.1071/WR18008>
- Ragni, R., Bienen, B., Stanier, S. A., Cassidy, M. J., & O'Loughlin, C. D. (2018). Visualisation of mechanisms governing suction bucket installation in dense sand. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics: Proceedings of the 9th International Conference on Physical Modelling in Geotechnics (ICPMG 2018), July 17-20, 2018, London, United Kingdom* (Vol. 1, pp. 651-656). London, United Kingdom: Taylor & Francis. <https://doi.org/10.1201/9780429438660-97>
- Randolph, M., Stanier, S., O'Loughlin, C., Chow, S. H., Bienen, B., Doherty, J., ... Schneider, J. (2018). Penetrometer equipment and testing techniques for offshore design of foundations, anchors and pipelines. In M. A. Hicks, F. Pisano, & J. Puechen (Eds.), *Cone Penetration Testing 2018: Proceedings of the 4th International Symposium on Cone Penetration Testing (CPT'18), Delft, The Netherlands, 21-22 June 2018* (pp. 3-23). The Netherlands: CRC Press.

- Rayson, M. D., Ivey, G. N., Jones, N. L., & Fringer, O. B. (2018). Resolving high-frequency internal waves generated at an isolated coral atoll using an unstructured grid ocean model. *Ocean Modelling*, 122, 67-84. <https://doi.org/10.1016/j.ocemod.2017.12.007>
- Reboud, S., Serboff, T., Goy, H., Mazzarol, T., & Clark, D. (2018). Exploring the diversity of SMEs: a taxonomic approach in a French Region as a way to avoid the dichotomy Gazelles / Muppets (or "Silicon Valley Business Model" and the rest of SMEs). In T. Zellweger, U. Fueglistaller, I. Hatak, & T. Volery (Eds.), *Beyond Silicon Valley: Moving towards a contextualized view of entrepreneurship: Rencontres de St-Gallen 2018*
- Reboud, S., Serboff, T., Goy, H., Mazzarol, T., & Clark, D. (2018). Les politiques publiques face à la diversité des PME: les apports d'une approche taxonomique en Rhone-Alpes. *Revue internationale PME*, 31(2), 27-57.
- Ricardo, G. F., Jones, R. J., Clode, P. L., Humanes, A., Giofre, N., & Negri, A. P. (2018). Sediment characteristics influence the fertilisation success of the corals *Acropora tenuis* and *Acropora millepora*. *Marine Pollution Bulletin*, 135, 941-953. <https://doi.org/10.1016/j.marpolbul.2018.08.001>
- Richards, Z. T., Yasuda, N., Kikuchi, T., Foster, T., Mitsuyuki, C., Stat, M., ... Wilson, N. G. (2018). Integrated evidence reveals a new species in the ancient blue coral genus *Heliopora* (Octocorallia). *Scientific Reports*, 8(1), [15875]. <https://doi.org/10.1038/s41598-018-32969-z>
- Rijnsdorp, D. P., Hansen, J. E., & Lowe, R. J. (2018). Simulating the wave-induced response of a submerged wave-energy converter using a non-hydrostatic wave-flow model. *Coastal Engineering*, 140, 189-204. <https://doi.org/10.1016/j.coastaleng.2018.07.004>
- Ross, C. L. (2018). Coral calcification mechanisms and the use of corals as paleothermometers. <https://doi.org/10.26182/5c1b2d9de64cf>
- Ross, C. L., Schoepf, V., DeCarlo, T. M., & McCulloch, M. T. (2018). Mechanisms and seasonal drivers of calcification in the temperate coral *Turbinaria reniformis* at its latitudinal limits. *Proceedings of the Royal Society B: Biological Sciences*, 285(1879), [20180215]. <https://doi.org/10.1098/rspb.2018.0215>
- Ruan, R., Zheng, M., Gao, J., Landao-Bassonga, E., Chen, L., Chen, P., ... Zhao, X. (2018). Improved Biological Properties of Calcium Phosphate Cement by Nacre Incorporation: An In Vitro Study. *Journal of Biomaterials and Tissue Engineering*, 8(1), 67-79. <https://doi.org/10.1166/jbt.2018.1720>
- Rudin-Bitterli, T. S., Mitchell, N. J., & Evans, J. P. (2018). Environmental stress increases the magnitude of nonadditive genetic variation in offspring fitness in the frog *Crinia georgiana*. *American Naturalist*, 192(4), 461-478. <https://doi.org/10.1086/699231>
- Ruppert, J. L. W., Vigliola, L., Kulbicki, M., Labrosse, P., Fortin, M. J., & Meekan, M. G. (2018). Human activities as a driver of spatial variation in the trophic structure of fish communities on Pacific coral reefs. *Global Change Biology*, 24(1), e67-e79. <https://doi.org/10.1111/gcb.13882>
- Ruthrof, K. X., Breshears, D. D., Fontaine, J. B., Froend, R. H., Matusick, G., Kala, J., ... Hardy, G. E. S. J. (2018). Subcontinental heat wave triggers terrestrial and marine, multi-taxa responses. *Scientific Reports*, 8(1), [13094]. <https://doi.org/10.1038/s41598-018-31236-5>
- Ryan, L. A., Chapuis, L., Hemmi, J. M., Collin, S. P., McCauley, R. D., Yopak, K. E., ... Hart, N. S. (2018). Effects of auditory and visual stimuli on shark feeding behaviour: the disco effect. *Marine Biology*, 165(1), [11]. <https://doi.org/10.1007/s00227-017-3256-0>
- Salim, MD. S. (2018). The role of near-bed turbulence in sediment resuspension. <https://doi.org/10.4225/23/5a7a6393d6ee3>
- Salim, S., Pattiaratchi, C., Tinoco, R. O., & Jayaratne, R. (2018). Sediment Resuspension Due to Near-Bed Turbulent Effects: A Deep Sea Case Study on the Northwest Continental Slope of Western Australia. *Journal of Geophysical Research: Oceans*, 123(10), 7102-7119. <https://doi.org/10.1029/2018JC013819>
- Scanlan, C. A., Rahmani, H., Bowles, R., & Bennamoun, M. (2018). Three-dimensional scanning for measurement of bulk density in gravelly soils. *Soil Use and Management*, 34(3), 380-387. <https://doi.org/10.1111/sum.12426>
- Schneider, J. A., Doherty, J. P., Randolph, M. F., & Krabbenhoft, K. (2018). Direct use of CPT data for numerical analysis of VHM loading of shallow foundations. In M. A. Hicks, F. Pisano, & J. Peuchen (Eds.), *Cone Penetration Testing 2018 - Proceedings of the 4th International Symposium on Cone Penetration Testing, CPT 2018* (pp. 563-569). Netherlands: CRC Press/Balkema.
- Schoepf, V., Cornwall, C. E., Pfeifer, S. M., Carrion, S. A., Alessi, C., Comeau, S., & McCulloch, M. T. (2018). Impacts of coral bleaching on pH and oxygen gradients across the coral concentration boundary layer: a microsensor study. *Coral Reefs*. <https://doi.org/10.1007/s00338-018-1726-6>
- Sedghi, H., & Kimiaei, M. (2018). Effects of mooring line design parameters on the line dynamics and fatigue response of subsea mooring lines. *Abstract from ASME 2018 37th International Conference on Ocean, Offshore and Arctic Engineering, OMAE 2018, Madrid, Spain*. <https://doi.org/10.1115/OMAEO2018-78716>
- Segura, L. E., Hansen, J. E., & Lowe, R. J. (2018). Seasonal Shoreline Variability Induced by Subtidal Water Level Fluctuations at Reef-Fringed Beaches. *Journal of Geophysical Research: Earth Surface*, 123(3), 433-447. <https://doi.org/10.1002/2017JF004385>
- Segura, L. E., Hansen, J. E., Lowe, R. J., Symonds, G., & Contardo, S. (2018). Shoreline variability at a low-energy beach: Contributions of storms, megacusps and sea-breeze cycles. *Marine Geology*, 400, 94-106. <https://doi.org/10.1016/j.margeo.2018.03.008>
- Selvarajah, A., Bennamoun, M., Playford, D., Chow, B. J. W., & Dwivedi, G. (2018). Application of Artificial Intelligence in Coronary Computed Tomography Angiography. *Current Cardiovascular Imaging Reports*, 11(6), [12]. <https://doi.org/10.1007/s12410-018-9453-5>

- Sequeira, A. M. M., Bouchet, P. J., Yates, K. L., Mengersen, K., & Caley, M. J. (2018). Transferring biodiversity models for conservation: Opportunities and challenges. *Methods in Ecology and Evolution*, 9(5), 1250-1264. <https://doi.org/10.1111/2041-210X.12998>
- Sequeira, A. M. M., Mellin, C., Lozano-Montes, H. M., Meeuwig, J. J., Vanderklift, M. A., Haywood, M. D. E., ... Caley, M. J. (2018). Challenges of transferring models of fish abundance between coral reefs. *PEERJ*, 6, [e4566]. <https://doi.org/10.7717/peerj.4566>
- Sequeira, A. M. M., Rodríguez, J. P., Eguíluz, V. M., Harcourt, R., Hindell, M., Sims, D. W., ... Thums, M. (2018). Convergence of marine megafauna movement patterns in coastal and open oceans. *Proceedings of the National Academy of Sciences of the United States of America*, 115(12), 3072-3077. <https://doi.org/10.1073/pnas.1716137115>
- Serra, T., Oldham, C., & Colomer, J. (2018). Local hydrodynamics at edges of marine canopies under oscillatory flows. *PLoS One*, 13(8), [e0201737]. <https://doi.org/10.1371/journal.pone.0201737>
- Shah, S. A. A., Bennamoun, M., Boussaid, F., & While, L. (2018). Evolutionary Feature Learning for 3D Object Recognition. *IEEE Access*, 6, 2434-2444. <https://doi.org/10.1109/ACCESS.2017.2783331>
- Shah, S., Bennamoun, M., & Zhang, L. (2018). Attention in Convolutional LSTM for Gesture Recognition. *Advances in Neural Information Processing Systems*.
- Sharif, N., Bennamoun, M., White, L. R., & Shah, S. (2018). Learning-based Composite Metrics for Improved Caption Evaluation. In *Proceedings of ACL 2018, Student Research Workshop (pp. 14-20)*. Australia: Association for Computational Linguistics.
- Sharif, N., White, L. R., Bennamoun, M., & Shah, S. (2018). NNEval: Neural Network based Evaluation Metric for Image Captioning. In *ECCV (pp. 39-55)*. Springer. https://doi.org/10.1007/978-3-030-01237-3_3
- Sheck, L., Davies, W. I. L., Moradi, P., Robson, A. G., Kumaran, N., Liasis, A. C., ... Michaelides, M. (2018). Leber Congenital Amaurosis Associated with Mutations in CEP290, Clinical Phenotype, and Natural History in Preparation for Trials of Novel Therapies. *Ophthalmology*, 125(6), 894-903. <https://doi.org/10.1016/j.ophtha.2017.12.013>
- Sherman, C. D. H., Smith, T. M., York, P. H., Jarvis, J. C., Ruiz Montoya, L., & Kendrick, G. (2018). Reproductive, dispersal and recruitment strategies in Australian seagrasses. In A. Larkum, G. Kendrick, & P. Ralph (Eds.), *Seagrasses of Australia: Structure, Ecology and Conservation (pp. 213-256)*. Netherlands: Springer.
- Sinclair, E. A., Ruiz-Montoya, L., Krauss, S. L., Anthony, J. M., Hovey, R. K., Lowe, R. J., & Kendrick, G. A. (2018). Seeds in motion: Genetic assignment and hydrodynamic models demonstrate concordant patterns of seagrass dispersal. *Molecular Ecology*, 27(24), 5019-5034. <https://doi.org/10.1111/mec.14939>
- Skippington, J., Manne, T., & Veth, P. (2018). Macropods and measurables: A critical review of contemporary isotopic approaches to palaeo-environmental reconstructions in Australian zooarchaeology. *Journal of Archaeological Science: Reports*, 17, 144-154. <https://doi.org/10.1016/j.jasrep.2017.11.010>
- Smith, F., Allen, S. J., Bejder, L., & Brown, A. M. (2018). Shark bite injuries on three inshore dolphin species in tropical northwestern Australia. *Marine Mammal Science*, 34(1), 87-99. <https://doi.org/10.1111/mms.12435>
- Solomonovich, M., Bica, I., Gao, L., & Hailu, A. (2018). Analysis of Kramer's coral-reef food web mode. *Theoretical and Applied Ecology*, (2), 16-25. <https://doi.org/10.25750/1995-4301-2018-2-016-025>
- Speed, C. W., Cappo, M., & Meekan, M. G. (2018). Evidence for rapid recovery of shark populations within a coral reef marine protected area. *Biological Conservation*, 220, 308-319. <https://doi.org/10.1016/j.biocon.2018.01.010>
- Spencer-Cotton, A., Kragt, M. E., & Burton, M. (2018). Spatial and Scope Effects: Valuations of Coastal Management Practices. *Journal of Agricultural Economics*, 69(3), 833-851. <https://doi.org/10.1111/1477-9552.12301>
- Sprogis, K. R., Christiansen, F., Wandres, M., & Bejder, L. (2018). El Niño Southern Oscillation influences the abundance and movements of a marine top predator in coastal waters. *Global Change Biology*, 24(3), 1085-1096. <https://doi.org/10.1111/gcb.13892>
- Stacey, N., Steenbergen, D. J., Clifton, J., & Acciaoli, G. L. (2018). Understanding social wellbeing and values of small-scale fisheries amongst the Sama-Bajau of Archipelagic Southeast Asia. In D. S. Johnson, T. G. Acott, N. Stacey, & J. Urquhart (Eds.), *Social wellbeing and the values of small-scale fisheries (pp. 97-123)*. (MARE Publication Series; Vol. 17). New York: Springer. https://doi.org/10.1007/978-3-319-60750-4_5
- Stanisic, D., Efthymiou, M., Kimiaei, M., & Zhao, W. (2018). Design loads and long term distribution of mooring line response of a large weathervaning vessel in a tropical cyclone environment. *Marine Structures*, 61, 361-380. <https://doi.org/10.1016/j.marstruc.2018.06.004>
- Stanwix, P. L., Rathnayake, N. M., De Obanos, F. P. P., Johns, M. L., Aman, Z. M., & May, E. F. (2018). Characterising thermally controlled CH₄-CO₂ hydrate exchange in unconsolidated sediments. *Energy and Environmental Science*, 11(7), 1828-1840. <https://doi.org/10.1039/c8ee00139a>
- Stapelfeldt, M., Bienen, B., & Grabe, J. (2018). Centrifuge tests investigating the effect of suction caisson installation in dense sand on the state of the soil plug. In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Proceedings of the 9th International Conference on Physical Modelling in Geotechnics (Vol. 1, pp. 669-674)*. London, United Kingdom: CRC Press.

- Statton, J., Dixon, K., Irving, A. D., Jackson, E., Kendrick, G., Orth, R. J., & Sinclair, E. (2018). Decline and restoration ecology of Australian seagrasses. In A. Larkum, G. Kendrick, & P. Ralph (Eds.), *Seagrasses of Australia: Structure, Ecology and Conservation* (pp. 665-704). Netherlands: Springer International Publishing.
- Statton, J., McMahon, K., Lavery, P., & Kendrick, G. A. (2018). Determining light stress responses for a tropical multi-species seagrass assemblage. *Marine Pollution Bulletin*, 128, 508-518. <https://doi.org/10.1016/j.marpolbul.2018.01.060>
- Stewart, J. D., Jaine, F. R. A., Armstrong, A. J., Armstrong, A. O., Bennett, M. B., Burgess, K. B., ... Stevens, G. M. W. (2018). Research priorities to support effective Manta and Devil Ray conservation. *Frontiers in Marine Science*, 5(SEP), [314]. <https://doi.org/10.3389/fmars.2018.00314>
- Strydom, S., McMahon, K. M., Kendrick, G. A., Statton, J., & Lavery, P. S. (2018). Short-term responses of *Posidonia australis* to changes in light quality. *Frontiers in Plant Science*, 8, [2224]. <https://doi.org/10.3389/fpls.2017.02224>
- Stubbs, J. L., & Mitchell, N. J. (2018). The Influence of Temperature on Embryonic Respiration, Growth, and Sex Determination in a Western Australian Population of Green Turtles (*Chelonia mydas*). *Physiological and Biochemical Zoology*, 91(6), 1102-1114. <https://doi.org/10.1086/700433>
- Subroy, V., Rogers, A. A., & Kragt, M. E. (2018). To Bait or Not to Bait: A Discrete Choice Experiment on Public Preferences for Native Wildlife and Conservation Management in Western Australia. *Ecological Economics*, 147, 114-122. <https://doi.org/10.1016/j.ecolecon.2017.12.031>
- Sun, C., Feng, X., Gourvenec, S., Neubecker, S. R., & Randolph, M. F. (2018). Finite element simulation of an embedded anchor chain. In *Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering - OMAE (Vol. 9)*. The American Society of Mechanical Engineers (ASME). <https://doi.org/10.1115/OMAE2018-77781>
- Sun, Y., Lu, D., Xu, J., & Zhang, X. (2018). A study of hydroelastic behavior of hinged VLFS. *International Journal of Naval Architecture and Ocean Engineering*, 10(2), 170-179. <https://doi.org/10.1016/j.ijnaoe.2017.05.002>
- Tang, G., Cheng, L., Lu, L., Teng, Y., Zhao, M., & An, H. (2018). Effect of oscillatory boundary layer on hydrodynamic forces on pipelines. *Coastal Engineering*, 140, 114-123. <https://doi.org/10.1016/j.coastaleng.2018.06.006>
- Tang, K., Hailu, A., Kragt, M. E., & Ma, C. (2018). The response of broadacre mixed crop-livestock farmers to agricultural greenhouse gas abatement incentives. *Agricultural Systems*, 160, 11-20. <https://doi.org/10.1016/j.agsy.2017.11.001>
- Tarasov, B. G., Sadovskii, V. M., Sadovskaya, O. V., Cassidy, M. J., & Randolph, M. F. (2018). Modelling the static stress-strain state around the fan-structure in the shear rupture head. *Applied Mathematical Modelling*, 57, 268-279. <https://doi.org/10.1016/j.apm.2018.01.020>
- Techera, E. (2018). Marine protected areas: Contemporary challenges and developments. In D. Hassan, & S. Karim (Eds.), *International Marine Environmental Law and Policy USA*: Routledge.
- Techera, E. J. (2018). Supporting blue economy agenda: fisheries, food security and climate change in the Indian Ocean. *Journal of the Indian Ocean Region*, 14(1), 7-27. <https://doi.org/10.1080/19480881.2017.1420579>
- Thomsen, M. S., Altieri, A. H., Angelini, C., Bishop, M. J., Gribben, P. E., Lear, G., ... Zotz, G. (2018). Secondary foundation species enhance biodiversity. *Nature Ecology and Evolution*, 2(4), 634-639. <https://doi.org/10.1038/s41559-018-0487-5>
- Thomson, P. G., Fowler, A. M., Davis, A. R., Pattiaratchi, C. B., & Booth, D. J. (2018). Some old movies become classics - a case study determining the scientific value of ROV inspection footage on a platform on Australia's North West Shelf. *Frontiers in Marine Science*, 5(December), [471]. <https://doi.org/10.3389/fmars.2018.00471>
- Thums, M., Fernandez-Gracia, J., Sequeira, A. M. M., Eguiluz, V. M., Duarte, C. M., & Meekan, M. G. (2018). How Big Data Tracked Human Mobility Research and the Lessons for Animal Movement Ecology. *Frontiers in Marine Science*, 5, [21]. <https://doi.org/10.3389/fmars.2018.00021>
- Thums, M., Rossendell, J., Guinea, M., & Ferreira, L. C. (2018). Horizontal and vertical movement behaviour of flatback turtles and spatial overlap with industrial development. *Marine Ecology Progress Series*, 602, 237-253. <https://doi.org/10.3354/meps12650>
- Tian, Y., Gaudin, C., Randolph, M. F., Cassidy, M. J., & Peng, B. (2018). Numerical investigation of diving potential and optimization of offshore anchors. *Journal of Geotechnical and Geoenvironmental Engineering*, 144(2), [04017117]. [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0001830](https://doi.org/10.1061/(ASCE)GT.1943-5606.0001830)
- Tickler, D., Meeuwig, J. J., Bryant, K., David, F., Forrest, J. A. H., Gordon, E., ... Zeller, D. (2018). Modern slavery and the race to fish. *Nature Communications*, 9(1), [4643]. <https://doi.org/10.1038/s41467-018-07118-9>
- Tickler, D., Meeuwig, J., Palomares, M. L. D., Pauly, D., & Zeller, D. (2018). Far from home: Distance patterns of global fishing fleets. *Science Advances*, 4(8), eaar3279. [8]. <https://doi.org/10.1126/sciadv.aar3279>
- Titelboim, D., Sadekov, A., Hyams-Kaphzan, O., Almogi-Labin, A., Herut, B., Kucera, M., & Abramovich, S. (2018). Foraminiferal single chamber analyses of heavy metals as a tool for monitoring permanent and short term anthropogenic footprints. *Marine Pollution Bulletin*, 128, 65-71. <https://doi.org/10.1016/j.marpolbul.2018.01.002>
- Tom, J. G., Draper, S., & White, D. J. (2018). Sediment transport and trench development beneath a cylinder oscillating normal to a sandy seabed. *Coastal Engineering*, 140, 395-410. <https://doi.org/10.1016/j.coastaleng.2018.08.006>

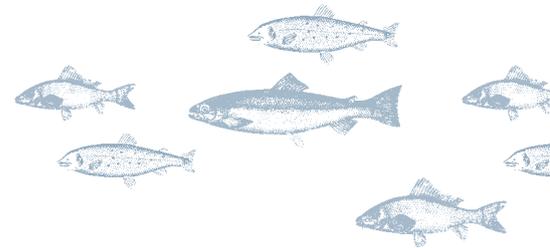
- Tong, F., Cheng, L., An, H., & Griffiths, T. (2018). Hydrodynamics on circular cylinder close to a wall: Effects from wall boundary layers. *In Pipelines, Risers, and Subsea Systems* (Vol. 5). The American Society of Mechanical Engineers (ASME). <https://doi.org/10.1115/OMAE2018-77518>
- Tsuboi, M., van der Bijl, W., Kopperud, B. T., Erritzøe, J., Voje, K. L., Kotrschal, A., ... Kolm, N. (2018). Breakdown of brain–body allometry and the encephalization of birds and mammals. *Nature Ecology and Evolution*, 2(9), 1492-1500. <https://doi.org/10.1038/s41559-018-0632-1>
- Tuckett, C. A., & Wernberg, T. (2018). High latitude corals tolerate severe cold spell. *Frontiers in Marine Science*, 5, [14]. <https://doi.org/10.3389/fmars.2018.00014>
- Tuffley, E-J., de Lestang, S., How, J., & Langlois, T. (2018). Methodological comparison for sampling populations of a commercially important rock lobster species. *Bulletin of Marine Science*, 94(3), 1035-1054. <https://doi.org/10.5343/bms.2017.1102>
- Turner, J. A., Babcock, R. C., Hovey, R., & Kendrick, G. A. (2018). AUV-based classification of benthic communities of the Ningaloo shelf and mesophotic areas. *Coral Reefs*, 37(3), 763-778. <https://doi.org/10.1007/s00338-018-1700-3>
- Turner, J. A., Babcock, R. C., Hovey, R., & Kendrick, G. A. (2018). Can single classifiers be as useful as model ensembles to produce benthic seabed substratum maps? *Estuarine, Coastal and Shelf Science*, 204, 149-163. <https://doi.org/10.1016/j.ecss.2018.02.028>
- Turner, J. A., Thomson, D. P., Cresswell, A. K., Trapon, M., & Babcock, R. C. (2018). Depth-related patterns in coral recruitment across a shallow to mesophotic gradient. *Coral Reefs*, 37(3), 711-722. <https://doi.org/10.1007/s00338-018-1696-8>
- Valentine, L. E., Ruthrof, K. X., Fisher, R., Hardy, G. E. S. J., Hobbs, R. J., & Fleming, P. A. (2018). Bioturbation by bandicoots facilitates seedling growth by altering soil properties. *Functional Ecology*, 32(9), 2138-2148. <https://doi.org/10.1111/1365-2435.13179>
- van Hees, D. H. (2018). Chemical adaptive capacity of brown seaweeds. <https://doi.org/10.26182/5c1885136d931>
- van Lier, J. R., Wilson, S. K., Depczynski, M., Wenger, L. N., & Fulton, C. J. (2018). Habitat connectivity and complexity underpin fish community structure across a seascape of tropical macroalgae meadows. *Landscape Ecology*, 33(8), 1287-1300. <https://doi.org/10.1007/s10980-018-0682-4>
- van Rooijen, A., Lowe, R., Ghisalberti, M., Conde-Frias, M., & Tan, L. (2018). Predicting current-induced drag in emergent and submerged aquatic vegetation canopies. *Frontiers in Marine Science*, 5(DEC), [449]. <https://doi.org/10.3389/fmars.2018.00449>
- Vandepitte, L., Vanhoorne, B., Decock, W., Vranken, S., Lanssens, T., Dekeyser, S., ... Mees, J. (2018). A decade of the World Register of Marine Species – General insights and experiences from the Data Management Team: Where are we, what have we learned and how can we continue? *PLoS One*, 13(4), [e0194599]. <https://doi.org/10.1371/journal.pone.0194599>
- Vass, C. M., Wright, S., Burton, M., & Payne, K. (2018). Scale Heterogeneity in Healthcare Discrete Choice Experiments: A Primer. *Patient*, 11(2), 167-173. <https://doi.org/10.1007/s40271-017-0282-4>
- Veth, P. (2018). The Archaeology of Rock Art in Western Arnhem Land, Australia. *Archaeology in Oceania*, 53(2), 132-135. <https://doi.org/10.1002/arco.5150>
- Vianna, G. M. S., Meekan, M. G., Rogers, A. A., Kragt, M. E., Alin, J. M., & Zimmerhackel, J. S. (2018). Shark-diving tourism as a financing mechanism for shark conservation strategies in Malaysia. *Marine Policy*, 94, 220-226. <https://doi.org/10.1016/j.marpol.2018.05.008>
- Vilas, M. P., Marti, C. L., Oldham, C. E., & Hipsey, M. R. (2018). Macrophyte-induced thermal stratification in a shallow urban lake promotes conditions suitable for nitrogen-fixing cyanobacteria. *Hydrobiologia*, 806(1), 467-480. <https://doi.org/10.1007/s10750-017-3376-z>
- Vilibić, I., Mihanović, H., Janeković, I., Denamiel, C., Poulain, P. M., Orlić, M., ... Džoić, T. (2018). Wintertime dynamics in the coastal northeastern Adriatic Sea: The NAdEx 2015 experiment. *Ocean Science*, 14(2), 237-258. <https://doi.org/10.5194/os-14-237-2018>
- Voermans, J. J., Ghisalberti, M., & Ivey, G. N. (2018). The Hydrodynamic Response of the Sediment-Water Interface to Coherent Turbulent Motions. *Geophysical Research Letters*, 45(19), 10520-10527. <https://doi.org/10.1029/2018GL079850>
- Voermans, J., Ghisalberti, M., & Ivey, G. (2018). A model for mass transport across the sediment–water interface. *Water Resources Research*, 54(4), 2799-2812. <https://doi.org/10.1002/2017WR022418>
- Wandres, M. (2018). The influence of atmospheric and ocean circulation variability on the southwest Western Australian wave climate. <https://doi.org/10.4225/23/5ae2a57566b64>
- Wandres, M., Pattiaratchi, C., Hetzel, Y., & Wijeratne, E. M. S. (2018). The response of the southwest Western Australian wave climate to Indian Ocean climate variability. *Climate Dynamics*, 50, 1533-1557. <https://doi.org/10.1007/s00382-017-3704-z>

- Wang, A., Lee, C., Hughes, J., & Zheng, M. H. (2018). Can Shoulder Arthroscopy Work? (CSAW) trial. *Lancet*, 392(10144), 281-281. [https://doi.org/10.1016/S0140-6736\(18\)30777-3](https://doi.org/10.1016/S0140-6736(18)30777-3)
- Wang, B., Hipsey, M. R., Ahmed, S., & Oldham, C. (2018). The Impact of Landscape Characteristics on Groundwater Dissolved Organic Nitrogen: Insights From Machine Learning Methods and Sensitivity Analysis. *Water Resources Research*, 54(7), 4785-4804. <https://doi.org/10.1029/2017WR021749>
- Wang, H., Draper, S., Zhao, W., Wolgamot, H., & Cheng, L. (2018). Development of a computational fluid dynamics model to simulate three-dimensional gap resonance driven by surface waves. *Journal of Offshore Mechanics and Arctic Engineering*, 140(6), [061803]. <https://doi.org/10.1115/1.4040242>
- Wang, K., Ma, C., Zheng, M., Liu, X., Feng, J., & Jing, Y. (2018). The direct transdifferentiation of tendon cells into bone cells during bone modeling and remodeling. *Journal of Bone and Mineral Research*, 33, 70-70.
- Wang, T., Chen, P., Zheng, M., Wang, A., Lloyd, D., Leys, T., ... Zheng, M. H. (2018). In vitro loading models for tendon mechanobiology. *Journal of Orthopaedic Research: a journal for musculoskeletal investigations*, 36(2), 566-575. <https://doi.org/10.1002/jor.23752>
- Wang, T., Thien, C., Wang, C., Ni, M., Gao, J., Wang, A., ... Zheng, M. H. (2018). 3D uniaxial mechanical stimulation induces tenogenic differentiation of tendon-derived stem cells through a PI3K/AKT signaling pathway. *FASEB Journal*, 32(9), 4804-4814. <https://doi.org/10.1096/fj.201701384R>
- Wang, X. H., Gan, J., & Lowe, R. (2018). Sediment dynamics of muddy coasts and estuaries in China: An introduction. *Estuarine, Coastal and Shelf Science*, 206. <https://doi.org/10.1016/j.ecss.2017.11.036>
- Wang, Y., Cassidy, M. J., & Bienen, B. (2018). Effect of underlying sand layer on undrained capacity of spudcan foundations in soft clay under combined loading. In *Proceedings of the 37th International Conference on Ocean, Offshore and Arctic Engineering [OMAE2018-78198] United States: ASME International*. <https://doi.org/10.1115/OMAE2018-78198>
- Wang, Y., Hu, Y., & Hossain, M. S. (2018). Ambient pressure calibration for cone penetrometer test: Necessary? In A. McNamara, S. Divall, R. Goodey, N. Taylor, S. Stallebrass, & J. Panchal (Eds.), *Physical Modelling in Geotechnics* (Vol. 1, pp. 329-334). UK: CRC Press/Balkema. <https://doi.org/10.1201/9780429438660-44>
- Ward, I., Smyth, D., Veth, P., McDonald, J., & McNeair, S. (2018). Recognition and value of submerged prehistoric landscape resources in Australia. *Ocean and Coastal Management*, 160, 167-174. <https://doi.org/10.1016/j.ocecoaman.2018.04.013>
- Weersink, A., Fraser, E., Pannell, D., Duncan, E., & Rotz, S. (2018). Opportunities and Challenges for Big Data in Agricultural and Environmental Analysis. *Annual Review of Resource Economics*, 10, 19-37. <https://doi.org/10.1146/annurev-resource-100516-053654>
- Wellington, C. M., Harvey, E. S., Wakefield, C. B., Langlois, T. J., Williams, A., White, W. T., & Newman, S. J. (2018). Peak in biomass driven by larger-bodied meso-predators in demersal fish communities between shelf and slope habitats at the head of a submarine canyon in the south-eastern Indian Ocean. *Continental Shelf Research*, 167, 55-64. <https://doi.org/10.1016/j.csr.2018.08.005>
- Wells, N. S., Maher, D. T., Erler, D. V., Hipsey, M., Rosentreter, J. A., & Eyre, B. D. (2018). Estuaries as Sources and Sinks of N₂O Across a Land Use Gradient in Subtropical Australia. *Global Biogeochemical Cycles*, 32(5), 877-894. <https://doi.org/10.1029/2017GB005826>
- Wenger, A. S., Rawson, C., Wilson, S., Newman, S., Travers, M. J., Atkinson, S., ... Harvey, E. (2018). Management strategies to minimize the dredging impacts of coastal development on fish and fisheries. *Conservation Letters*, [e12572]. <https://doi.org/10.1111/conl.12572>
- Wernberg, T., & Filbee-Dexter, K. (2018). Grazers extend blue carbon transfer by slowing sinking speeds of kelp detritus. *Scientific Reports*, 8(1), [17180]. <https://doi.org/10.1038/s41598-018-34721-z>
- Wernberg, T., Coleman, M. A., Bennett, S., Thomsen, M. S., Tuya, F., & Kelaher, B. P. (2018). Genetic diversity and kelp forest vulnerability to climatic stress. *Scientific Reports*, 8(1), [1851]. <https://doi.org/10.1038/s41598-018-20009-9>
- Westbrook, V. (2018). Friday Essay: The Meg is a horror story but our treatment of sharks is scarier. *The Conversation*, on-line.
- Westbrook, V. (2018). Shakespeare's Reformation humour. In V. Westbrook, & S. Chao (Eds.), *Humour in the arts: New perspectives* (1 ed., pp. 94-112). (Studies for the International Society for Cultural History). Abington, Oxon: Routledge.
- Westbrook, V. R., Collin, S. P., Crawford, D., & Nicholls, M. (2018). *Sharks in the Arts: From Feared to Revered*. (1 ed.) (Environmental Humanities Series). Routledge.
- Westbrook, V., & Chao, S. (Eds.) (2018). *Humour in the Arts: New Perspectives*. (Studies for the International Society for Cultural History). New York and London: Routledge.
- Westwood, K. J., Thomson, P. G., van den Enden, R. L., Maher, L. E., Wright, S. W., & Davidson, A. T. (2018). Ocean acidification impacts primary and bacterial production in Antarctic coastal waters during austral summer. *Journal of Experimental Marine Biology and Ecology*, 498, 46-60. <https://doi.org/10.1016/j.jembe.2017.11.003>
- White, D., & Bransby, M. (2018). Pipe-seabed interaction. In *Encyclopedia of Maritime and Offshore Engineering UK: John Wiley & Sons*. <https://doi.org/10.1002/9781118476406.emoe536>

- White, D., O'Loughlin, C., Stark, N., & Chow, S. H. (2018). Free fall penetrometer tests in sand: Determining the equivalent static resistance. In M. Hicks, F. Pisano, & J. Puechen (Eds.), *Cone Penetration Testing 2018: Proceedings of the 4th International Symposium on Cone Penetration Testing (CPT'18), 21-22 June, 2018, Delft, The Netherlands* (pp. 695-701). London: CRC Press.
- White, L., Togneri, R., Liu, W., & Bennamoun, M. (2018). Generating bags of words from the sums of their word embeddings. In A. Gelbukh (Ed.), *Computational Linguistics and Intelligent Text Processing - 17th International Conference, CICLing 2016, Revised Selected Papers* (pp. 91-102). (Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics); Vol. 9623 LNCS). Austria: Springer-Verlag Wien. https://doi.org/10.1007/978-3-319-75477-2_5
- White, L., Togneri, R., Liu, W., & Bennamoun, M. (2018). *Neural Representations of Natural Language. (Studies in Computational Intelligence)*. Austria: Springer. https://doi.org/10.1007/978-981-13-0062-2_6
- White, L., Togneri, R., Liu, W., & Bennamoun, M. (2018). Novel Perspective: Identifying Point of View Characters. In *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics-System Demonstrations (Vol. 2, pp. 7-12)*. Melbourne: Association for Computational Linguistics.
- Whitehead, S., Cambridge, M. L., & Renton, M. (2018). A functional-structural model of ephemeral seagrass growth influenced by environment. *Annals of Botany*, 121(5), 897-908. <https://doi.org/10.1093/aob/mcx156>
- Wijeratne, S., Pattiaratchi, C., & Proctor, R. (2018). Estimates of Surface and Subsurface Boundary Current Transport Around Australia. *Journal of Geophysical Research: Oceans*, 123(5), 3444-3466. <https://doi.org/10.1029/2017JC013221>
- Wilson, P., Thums, M., Pattiaratchi, C., Meekan, M., Pendoley, K., Fisher, R., & Whiting, S. (2018). Artificial light disrupts the nearshore dispersal of neonate flatback turtles *Natator depressus*. *Marine Ecology Progress Series*, 600, 179-192. <https://doi.org/10.3354/meps12649>
- Wilson, S. K., Depczynski, M., Fisher, R., Holmes, T. H., Noble, M. M., Radford, B. T., ... Fulton, C. J. (2018). Climatic forcing and larval dispersal capabilities shape the replenishment of fishes and their habitat-forming biota on a tropical coral reef. *Ecology and Evolution*, 8(3), 1918-1928. <https://doi.org/10.1002/ece3.3779>
- Wilson, S. K., Graham, N. A. J., Holmes, T. H., MacNeil, M. A., & Ryan, N. M. (2018). Visual versus video methods for estimating reef fish biomass. *Ecological Indicators*, 85, 146-152. <https://doi.org/10.1016/j.ecolind.2017.10.038>
- Witcomb, A., & Paterson, A. (2018). Collections without End: The ghostly presences of Captain Matthew McVicker Smyth. *Museum Worlds: advances in research*, 6, 94-111. <https://doi.org/doi:10.3167/armw.2018.060108>
- Wojtasiewicz, B., Hardman-Mountford, N. J., Antoine, D., Dufois, F., Slawinski, D., & Trull, T. W. (2018). Use of bio-optical profiling float data in validation of ocean colour satellite products in a remote ocean region. *Remote Sensing of Environment*, 209, 275-290. <https://doi.org/10.1016/j.rse.2018.02.057>
- Wolgamot, H., Chua, K. H., Feng, X., Li, B., & Zhao, W. (2018). Resonant fluid motion in the narrow gap between FLNG and LNG carrier. In *Offshore Technology Conference Asia 2018, OTCA 2018 Offshore Technology Conference*. <https://doi.org/10.4043/28261-MS>
- Wright, S. J., Vass, C. M., Sim, G., Burton, M., Fiebig, D. G., & Payne, K. (2018). Accounting for Scale Heterogeneity in Healthcare-Related Discrete Choice Experiments when Comparing Stated Preferences: A Systematic Review. *Patient*, 11(2), 475-488. <https://doi.org/10.1007/s40271-018-0304-x>
- Wu, P. P. Y., Julian Caley, M., Kendrick, G. A., McMahon, K., & Mengersen, K. (2018). Dynamic Bayesian network inferencing for non-homogeneous complex systems. *Journal of the Royal Statistical Society. Series C: Applied Statistics*, 67(2), 417-434. <https://doi.org/10.1111/rssc.12228>
- Wu, P. P. Y., McMahon, K., Rasheed, M. A., Kendrick, G. A., York, P. H., Chartrand, K., ... Mengersen, K. (2018). Managing seagrass resilience under cumulative dredging affecting light: Predicting risk using dynamic Bayesian networks. *Journal of Applied Ecology*, 55(3), 1339-1350. <https://doi.org/10.1111/1365-2664.13037>
- Xiong, C., Cheng, L., Tong, F., & An, H. (2018). Influence of plane boundary proximity on the Honji instability. *Journal of Fluid Mechanics*, 852, 226-256. <https://doi.org/10.1017/jfm.2018.538>
- Xiong, C., Cheng, L., Tong, F., & An, H. (2018). On regime C flow around an oscillating circular cylinder. *Journal of Fluid Mechanics*, 849, 968-1008. <https://doi.org/10.1017/jfm.2018.436>
- Xiong, C., Cheng, L., Tong, F., & An, H. (2018). Oscillatory flow regimes for a circular cylinder near a plane boundary. *Journal of Fluid Mechanics*, 844, 127-161. <https://doi.org/10.1017/jfm.2018.164>
- Xu, J., Lowe, R. J., Ivey, G. N., Jones, N. L., & Zhang, Z. (2018). Contrasting Heat Budget Dynamics During Two La Niña Marine Heat Wave Events Along Northwestern Australia. *Journal of Geophysical Research: Oceans*, 123(2), 1563-1581. <https://doi.org/10.1002/2017JC013426>
- Xu, L., Bennamoun, M., An, S., Sohe, F., & Boussaid, F. (2018). Classification of corals in reflectance and fluorescence images using convolutional neural network representations. In *2018 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018 - Proceedings (Vol. 2018-April, pp. 1493-1497)*. [8462574] IEEE, Institute of Electrical and Electronics Engineers. <https://doi.org/10.1109/ICASSP.2018.8462574>

- Yan, S. W., Zhang, J. J., Tian, Y. H., & Chen, H. (2018). 等向固结饱和黏土卸载孔压特性的试验与理论研究. *Yantu Lixue/Rock and Soil Mechanics*, 39(3), 775-781. <https://doi.org/10.16285/j.rsm.2016.0676>
- Yang, F., An, H., & Cheng, L. (2018). Drag crisis of a circular cylinder near a plane boundary. *Ocean Engineering*, 154, 133-142. <https://doi.org/10.1016/j.oceaneng.2018.01.011>
- Yao, W., An, H., Draper, S., Cheng, L., & Harris, J. M. (2018). Experimental investigation of local scour around submerged piles in steady current. *Coastal Engineering*, 142, 27-41. <https://doi.org/10.1016/j.coastaleng.2018.08.015>
- Yates, K. L., Bouchet, P. J., Caley, M. J., Mengersen, K., Randin, C. F., Parnell, S., ... Sequeira, A. M. M. (2018). Outstanding Challenges in the Transferability of Ecological Models. *Trends in Ecology and Evolution*, 33(10), 790-802. <https://doi.org/10.1016/j.tree.2018.08.001>
- Yuan, X., Cai, W. J., Meile, C., Hopkinson, B. M., Ding, Q., Schoepf, V., ... Grottoli, A. G. (2018). Quantitative interpretation of vertical profiles of calcium and pH in the coral coelenteron. *Marine Chemistry*, 204, 62-69. <https://doi.org/10.1016/j.marchem.2018.06.001>
- Yuan, Z., Liu, D., Keesing, J. K., Zhao, M., Guo, S., Peng, Y., & Zhang, H. (2018). Paleocological evidence for decadal increase in phytoplankton biomass off northwestern Australia in response to climate change. *Ecology and Evolution*, 8(4), 2097-2107. <https://doi.org/10.1002/ece3.3836>
- Zed, M., & Milne, I. A. (2018). Full-scale verification of the hydrodynamic motions of a floating facility. In *Offshore Technology Conference Asia 2018 (Vol. 2, pp. 703-713). [OTC-28479-MS] United States: Offshore Technology Conference*. <https://doi.org/10.4043/28479-MS>
- Zeinoddini, M., Yaghubi Namin, Y., Matin Nikoo, H., Estekanchi, H., & Kimiaei, M. (2018). An EWA framework for the probabilistic-based structural integrity assessment of offshore platforms. *Marine Structures*, 59, 60-79. <https://doi.org/10.1016/j.marstruc.2018.01.002>
- Zhang, L., Feng, Y., Shen, P., Zhu, G., Wei, W., Song, J., ... Bennamoun, M. (2018). Efficient finer-grained incremental processing with MapReduce for big data. *Future Generation Computer Systems*, 80, 102-111. <https://doi.org/10.1016/j.future.2017.09.079>
- Zhang, L., Kong, X., Shen, P., Zhu, G., Shah, S., Bennamoun, M., & Song, J. (2018). Reflective Field for Pixel-Level Tasks. In *Reflective Field for Pixel-Level Tasks (pp. 529-534). IEEE, Institute of Electrical and Electronics Engineers*. <https://doi.org/10.1109/ICPR.2018.8545817>
- Zhang, L., Li, H., Shen, P., Zhu, G., Song, J., Shah, S. A. A., ... Bennamoun, M. (2018). Improving Semantic Image Segmentation with a Probabilistic Superpixel-Based Dense Conditional Random Field. *IEEE Access*, 6, 15297-15310. [2169-3536]. <https://doi.org/10.1109/ACCESS.2018.2814568>
- Zhang, L., Li, H., Zhu, G., Shen, P., Shah, S. A., & Bennamoun, M. (2018). Improving semantic image segmentation with a probabilistic superpixel-based fully connected CRF. *IEEE Access*, 6, 15297 - 15310.
- Zhang, L., Wang, L., Zhang, X., Shen, P., Bennamoun, M., Zhu, G., ... Song, J. (2018). Semantic scene completion with dense CRF from a single depth image. *Neurocomputing*, 318, 182-195. <https://doi.org/10.1016/j.neucom.2018.08.052>
- Zhang, L., Xu, Q., Zhu, G., Song, J., Zhang, X., Shen, P., ... Bennamoun, M. (2018). An Improved Colour-to-Grey Method Using Image Segmentation and the Colour Difference Model for Colour Vision Deficiency. *IET Image Processing*, 12(3), 314 - 319. <https://doi.org/10.1049/iet-ivr.2017.0482>
- Zhang, X., & Lu, D. (2018). An extension of a discrete-module-beam-bending-based hydroelasticity method for a flexible structure with complex geometric features. *Ocean Engineering*, 163, 22-28. <https://doi.org/10.1016/j.oceaneng.2018.05.050>
- Zhang, X., Lu, D., Gao, Y., & Chen, L. (2018). A time domain discrete-module-beam-bending-based hydroelasticity method for the transient response of very large floating structures under unsteady external loads. *Ocean Engineering*, 164, 332-349. <https://doi.org/10.1016/j.oceaneng.2018.06.058>
- Zhang, X., Lu, D., Guo, F., Gao, Y., & Sun, Y. (2018). The maximum wave energy conversion by two interconnected floaters: Effects of structural flexibility. *Applied Ocean Research*, 71, 34-47. <https://doi.org/10.1016/j.apor.2017.12.003>
- Zhang, X., Tian, X., Xiao, L., Li, X., & Chen, L. (2018). Application of an adaptive bistable power capture mechanism to a point absorber wave energy converter. *Applied Energy*, 228, 450-467. <https://doi.org/10.1016/j.apenergy.2018.06.100>
- Zhang, X., Wolgamot, H., Zhao, W., & Cheng, L. (2018). Numerical investigation of effects of bow flare angle on greenwater overtopping a fixed offshore vessel. In *Offshore Technology (Vol. 1). The American Society of Mechanical Engineers (ASME)*. <https://doi.org/10.1115/OMAE2018-77487>
- Zhao, W., Milne, I. A., Efthymiou, M., Wolgamot, H. A., Draper, S., Taylor, P., & Eatock Taylor, W. R. (2018). Current practice and research directions in hydrodynamics for FLNG-side-by-side offloading. *Ocean Engineering*, 158, 99-110. <https://doi.org/10.1016/j.oceaneng.2018.03.076>
- Zhao, W., Pan, Z., Lin, F., Li, B., Taylor, P. H., & Efthymiou, M. (2018). Estimation of gap resonance relevant to side-by-side offloading. *Ocean Engineering*, 153, 1-9. <https://doi.org/10.1016/j.oceaneng.2018.01.056>

- Zhao, W., Taylor, P. H., Wolgamot, H. A., & Eatock Taylor, R. (2018). Identifying linear and nonlinear coupling between fluid sloshing in tanks, roll of a barge and external free-surface waves. *Journal of Fluid Mechanics*, 844, 403-434. <https://doi.org/10.1017/jfm.2018.186>
- Zhao, W., Taylor, P. H., Wolgamot, H. A., & Taylor, R. E. (2018). Linear viscous damping in random wave excited gap resonance at laboratory scale — NewWave analysis and reciprocity. *Journal of Fluids and Structures*, 80, 59-76. <https://doi.org/10.1016/j.jfluidstructs.2018.03.002>
- Zhao, Z., Zhou, M., Hu, Y., & Hossain, M. S. (2018). Behavior of soil heave inside stiffened caissons being installed in clay. *Canadian Geotechnical Journal*, 55(5), 698-709. <https://doi.org/10.1139/cgj-2016-0667>
- Zheng, J., Hossain, M. S., & Wang, D. (2018). Estimating spudcan penetration resistance in stiff-soft-stiff clay. *Journal of Geotechnical and Geoenvironmental Engineering*, 144(3), [04018001]. [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0001820](https://doi.org/10.1061/(ASCE)GT.1943-5606.0001820)
- Zheng, Y., Duarte, C. M., Chen, J., Li, D., Lou, Z., & Wu, J. (2018). Remote sensing mapping of macroalgal farms by modifying thresholds in the classification tree. *Geocarto International*, 1-11. <https://doi.org/10.1080/10106049.2018.1474272>
- Zhou, T., Lou, X., & Lu, Y. (2018). Experimental investigation of flow field around an inclined square cylinder under forced oscillation. In S. Hernandez, J. Ravnik, & L. Skerget (Eds.), *Advances in Fluid Mechanics XII* (Vol. 120, pp. 51-60). WIT Press. <https://doi.org/10.2495/AFM180061>
- Zhou, T., Tian, Y., & Cassidy, M. J. (2018). Effect of tension on the combined loading failure envelope of a pipeline on soft clay seabed. *International Journal of Geomechanics*, 18(10), [04018131]. [https://doi.org/10.1061/\(ASCE\)GM.1943-5622.0001246](https://doi.org/10.1061/(ASCE)GM.1943-5622.0001246)
- Zhu, F., Bienen, B., O'Loughlin, C., Cassidy, M., & Morgan, N. (2018). Suction caisson foundations for offshore wind energy: Cyclic response in sand and sand over clay. *Géotechnique*, 1-8. <https://doi.org/10.1680/jgeot.17.P.273>
- Zhu, F., Bienen, B., O'Loughlin, C., Morgan, N., & Cassidy, M. J. (2018). The response of suction caissons to multidirectional lateral cyclic loading in sand over clay. *Ocean Engineering*, 170, 43-54. <https://doi.org/10.1016/j.oceaneng.2018.09.005>
- Zhu, F., O'Loughlin, C., Bienen, B., Cassidy, M. J., & Morgan, N. (2018). The response of suction caissons to long-term lateral cyclic loading in single-layer and layered seabeds. *Géotechnique*, 68(8), 729-741. <https://doi.org/10.1680/jgeot.17.P.129>
- Zhu, H., Gao, Y., & Zhou, T. (2018). Flow-induced vibration of a locally rough cylinder with two symmetrical strips attached on its surface: effect of the location and shape of strips. *Applied Ocean Research*, 72, 122-140. <https://doi.org/10.1016/j.apor.2018.01.009>
- Zhu, H., Zhao, Y., & Zhou, T. (2018). CFD analysis of energy harvesting from flow induced vibration of a circular cylinder with an attached free-to-rotate pentagram impeller. *Applied Energy*, 212, 304-321. <https://doi.org/10.1016/j.apenergy.2017.12.059>
- Zhu, H., Zhao, Y., & Zhou, T. (2018). Numerical investigation of the vortex-induced vibration of an elliptic cylinder free-to-rotate about its center. *Journal of Fluids and Structures*, 83, 133-155. <https://doi.org/10.1016/j.jfluidstructs.2018.08.011>
- Zimmerhackel, J. S., Kragt, M., & Meekan, M. (2018). *The past, present and future benefits of the shark-diving industry in Semporna Malaysia*. Australian Institute of Marine Science.
- Zimmerhackel, J. S., Rogers, A. A., Meekan, M. G., Ali, K., Pannell, D. J., & Kragt, M. E. (2018). How shark conservation in the Maldives affects demand for dive tourism. *Tourism Management*, 69, 263-271. <https://doi.org/10.1016/j.tourman.2018.06.009>
- Zinke, J., Gilmour, J. P., Fisher, R., Puotinen, M., Maina, J., Darling, E., ... Wilson, S. K. (2018). Gradients of disturbance and environmental conditions shape coral community structure for south-eastern Indian Ocean reefs. *Diversity and Distributions*, 24(5), 605-620. <https://doi.org/10.1111/ddi.12714>
- Zou, X., Hu, Y., Hossain, M. S., & Zhou, M. (2018). Capacity of skirted foundations in sand-over-clay under combined V-H-M loading. *Ocean Engineering*, 159, 201-218. <https://doi.org/10.1016/j.oceaneng.2018.04.007>







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