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WELCOME FROM THE OMAE 2023 CONFERENCE CHAIRS

Welcome to the 42nd Ocean, Offshore and Arctic Engineering Conference (OMAE) in Melbourne, Australia, hosted by the OOAE Division of ASME. OMAE combines Academia with Industry to adapt scientific achievements into practical applications for a smart, sustainable, and safe use of our oceans.

We, the organizers, are very excited to greet you. This is the first time the OMAE conference will be held in both the Southern & Eastern Hemispheres simultaneously. OMAE 2023 will promote the relevant engineering research and applications in the vast region of Australian waters, and more generally in Oceania and South- Eastern Asia. In return, the visitors will have a chance to meet and learn from researchers and engineers working in unique marine environments whose diversity is unprecedented. We have three exciting special symposia lined up to celebrate Australia's contribution to research, to highlight the nations in the Pacific Ocean and to promote the Blue Economy research activities underway in the region.

Australia's zone of maritime responsibility is 14% of the world ocean. These encompass three oceans, Pacific, Indian and Southern Ocean, with metocean climate ranging from equatorial and tropical areas in the north through Antarctic waters in the south. Multiple tropical cyclones impact the world-heritage Great Barrier Reef on the east and oil and gas field developments on the west. To the south the Great Australian Bight is a frontier region opening up for oil and gas developments which provides immense engineering challenges as it's arguably home to the largest waves on the planet.

The massive offshore industry of Australia spread across variety hostile marine regions. Historically, it started in Bass Strait between the mainland and Tasmania. On the North-West shelf alone, this industry is currently constructing US$120b in projects. The oil and gas exploration and production sites have now ventured hundreds of kilometres offshore, posing exceptional challenges and opportunities to offer unique solutions.

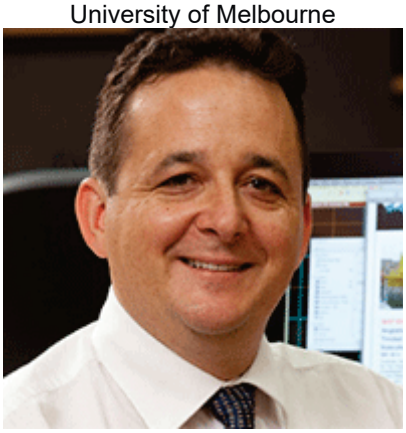
OMAE-2023 is hosted by the University of Melbourne, in collaboration with AMC University of Tasmania, University of Western Australia, other Australian Universities and broad industry partnerships across Australia and New Zealand. Melbourne, the capital of Victoria, is a spectacular city at Port Phillip Bay, many times voted the most liveable city in the world. It is also home to the most advanced maritime academic research, industry and consultancy. It is in Williamstown at the west side of Port Phillip where the first Australian tidal observations were started, and now almost in the centre of metropolitan Melbourne this site offers spectacular views of the Bay. The University of Melbourne hosts one of Australia's leading research groups in Maritime Engineering, with collaborative links across Oceania, Asia, North and South America, Europe and Africa. Their research and global applications span swells in Nigeria and sediment transport in Brazil, tropical cyclones in Australia, typhoons in Asia, hurricanes in the Gulf of Mexico, storms in the Southern Ocean and North Atlantic, wave-ice interactions in the Arctic and Antarctic, global satellite observations of wave climate and its trends. Together with co-organisers from the Australian Maritime College (Tasmania) and the University of Western Australia, they share state-of- the art facilities such as cavitation and directional-wave tanks, wave-ice and extreme wind-wave flumes, as well as the only full-cycle air-sea field observational site in the path of tropical cyclones at the North Rankin Platform of Woodside, Australia's main oil and gas producer.

Seven other Victorian Universities located in Melbourne offer research and courses across a broad range of marine engineering and science disciplines. Research headquarters of the Australian Bureau of Meteorology and of the Marine and Atmospheric Division of the Commonwealth Science and Industry Research Organisation – both responsible for the nation's Metocean research and operational applications – are located in Melbourne.

Victoria's petroleum (oil and gas) exploration and production is concentrated in the offshore Commonwealth waters of the Otway and Gippsland basins. The offshore Gippsland Basin is one of Australia's most prolific systems, having historically generated approximately two thirds of Australia's cumulative oil production and one third of its gas. Port of Melbourne is the largest container port in Australia. Victoria's large consultancy industry, such as AMOG, OMC International, Offshore Weather Services, AECOM, Cardno, among others, provide maritime services at global scale.

The location of the conference is on the Southern side of the Yarra river right across from the CBD (Central Business District). We warmly welcome you to Melbourne and encourage you to take time to wander through the city and experience all the other aspects of life in Melbourne whilst you're here for OMAE 2023.

OMAE 2023 Conference Co-Chair
Alex Babanin
Professor, Ocean Engineering
University of Melbourne



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WELCOME FROM THE OOAE DIVISION

Many years ago, while still a graduate student, I was introduced to the OOAE Division by my PhD advisor, the late Professor Allin Cornell. With support from industrial affiliates who funded Stanford University's Reliability of Marine Structures (RMS) program, I worked first on subjects aligned with OOAE's Structures, Safety and Reliability group and, later, with the Ocean Renewable Energy group. It would not be an exaggeration to say that the OOAE Division and the annual OMAE conferences, which I have attended every year since the 26th OMAE conference held in San Diego in 2007, have played an important part of my professional life. The division and opportunities it offered to engage with many friends have been wonderful in my journey as an academic.

On behalf of the OOAE Division, I welcome everyone engaged in ocean, offshore and arctic engineering activities—from academia, industry, research labs, and government institutions—to join us at this year's conference, the very first time in Australia! Ours is a truly international network of participants and we are delighted to welcome you to Melbourne. This year I have had the great opportunity to serve as OOAE Division Chair working together with many dedicated volunteers. At the end of the conference, I will pass the Chair responsibility to my good friend and current Vice-Chair, Rüdiger U. Franz von Bock und Polach.

I wish to thank my colleagues who have worked hard to arrange an exciting and innovative technical program. The contributions of authors, reviewers, session and topic organizers, symposium and workshop coordinators, and the technical program chair have all been vital. I must acknowledge all of the efforts, advice and ideas of the members of the Executive Committees of OOAE. It is the efforts of all these folks, collectively, that have preserved and even enhanced the vital role we all play in the technical, scientific, educational and economic contributions to ocean, offshore and arctic engineering. I have gained much from being a part of this group.

Finally, I acknowledge the Local Organizing Committee, the ASME staff, and the Sea-to-Sky personnel for their important roles in the organization of this, the 42nd OMAE conference.

I look forward to seeing you in Melbourne in June!

Prof. Lance Manuel
OOAE Division Chair
Professor & Associate Chair of Civil Engineering
The University of Texas at Austin

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