

Preface to the special issues of the International Conference on Ocean Energy 2024 (ICOE 2024)

Irene Penesis and Christophe Gaudin

THE International Conference on Ocean Energy (ICOE) 2024 marked a significant milestone in the event's history, taking place in Melbourne, Australia, from September 16–18, 2024. This was particularly notable as it was the first time the conference has been hosted in the Southern Hemisphere. The conference programme covered all aspects of the ocean energy sector, from markets and technology developments to socio-economic and environmental aspects and future investment opportunities, and ICOE continues to be highly relevant for professionals, researchers, and policymakers from around the world who are dedicated to advancing ocean energy technologies, policy, and collaboration. This biennial conference, renowned for its focus on the development of ocean energy - wave energy, tidal and ocean currents, ocean thermal energy and salinity gradient – continued its tradition of fostering innovation, collaboration, and dialogue in these sectors.

In 2024 the ICOE conference attracted over 230 attendees, including delegates and speakers from more than 20 countries. The event featured significant contributions from three major sectors: science, policy, and industry. Researchers, who made up 40% of the participants, presented 165 scientific papers, enhancing the understanding of technological potentials and limitations. Policymakers, accounting for 20% of the attendees, discussed regulatory frameworks and cooperative strategies to support the ocean energy industry. Meanwhile, industry representatives, also comprising 40% of the participants, showcased innovative products and systems, highlighting commercial progress and investment opportunities.

The ICOE 2024 conference featured three main tracks: Markets and Building Demand, Technical Developments, and Socio-Economic and Environmental Aspects. These tracks covered market trends, technological advancements, and the socio-economic and environmental impacts of ocean energy, providing a comprehensive overview of the sector's current state and future potential. These three interconnected tracks were specifically developed to explore the diverse challenges and opportunities within the sector, ranging from market dynamics and technical advancements to socio-economic and environmental impacts.

As a member of the Editorial Board of the International Marine Energy Journal (IMEJ), together with Prof. A.S. Bahaj, the Editor-in-Chief, we have decided to dedicate two special issues of the journal to present the best papers selected from the ICOE 2024 conference. These papers were subject to a double-blind peer review and recommended for publication by at least two reviewers.

Continuing the tradition of showcasing the achievements made at ICOE, following the IMEJ ICOE 2021 special editions, we believe these efforts will greatly benefit the ocean energy community. We hope that the quality, breadth, and diversity of the special edition papers will foster innovation and progress within the industry.

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Co-Chairs, ICOE 2024

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