

## **Developments in Marine Propulsors**

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Marine propulsors are key components of the many thousands of ships operating in oceans, lakes, and rivers globally. The performance of propulsors is vital to ensuring the efficiency, environmental impact, safety, and comfort of ships. New types of propulsors, with an electric drive, flexible blades, and multi-stage propellers, require new knowledge and improved tools. Innovative propulsor types using renewable energy from waves or wind are also becoming commercialised. Rotating marine renewable devices are used to obtain energy from water currents. Improvement in computational fluid dynamics present new opportunities for advanced design and performance prediction, and new instrumentation and data collection techniques enable the emergence of more advanced experimental methods. This Special Issue of the Journal of Marine Science and Engineering is devoted to bringing the latest developments in research and technical developments regarding marine propulsors to the benefit of both academia and industry.

This Special Issue comprises five excellent papers [1–5]. Two papers focus on vibration issues [1,4], one of them centering conventional shafting [1], and the other addressing podded propulsor shafting [4]. Two papers provide the results of investigations related to propellers operating partly in conditions of ice breaking [2,3]. Research on the effect of ice on propellers is rare and very valuable. Finally, there is a paper on a special type of propulsor called a pumpjet [5].

Conflicts of Interest: The author declares no conflict of interest.

## References

- 1. Chu, W.; Zhao, Y.; Zhang, G.; Yuan, H. Longitudinal Vibration of Marine Propulsion Shafting: Experiments and Analysis. J. Mar. Sci. Eng. 2022, 10, 1173. [CrossRef]
- Andryushin, A.V.; Ryabushkin, S.V.; Voronin, A.Y.; Shapkov, E.V. Sharp Profile for Icebreaking Propellers to Improve Their Ice and Hydrodynamic Characteristics. J. Mar. Sci. Eng. 2022, 10, 742. [CrossRef]
- Zambon, A.; Moro, L.; Brown, J.; Kennedy, A.; Oldford, D. A Measurement System to Monitor Propulsion Performance and Ice-Induced Shaftline Dynamic Response of Icebreakers. J. Mar. Sci. Eng. 2022, 10, 522. [CrossRef]
- Tian, Y.; Zhang, C.; Yang, L.; Ouyang, W.; Zhou, X. Analysis of Vibration Characteristics of Podded Propulsor Shafting Based on Analytical Method. J. Mar. Sci. Eng. 2022, 10, 169. [CrossRef]
- Yang, J.; Feng, D.; Liu, L.; Wang, X.; Yao, C. Research on the Performance of Pumpjet Propulsor of Different Scales. J. Mar. Sci. Eng. 2022, 10, 78. [CrossRef]

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