

## Special Issue

# Advances in Aerodynamic-Hydrodynamic Effects and Fluid-Structure Interaction Mechanisms for Offshore Wind Turbines

### Message from the Guest Editors

This Special Issue seeks to bridge these gaps by synthesizing cutting-edge research across numerical modeling, experimental validation, and data-driven innovations into a cohesive framework. Contributions may explore high-fidelity simulations of coupled aerodynamic-hydrodynamic structural systems, experimental techniques for synchronously capturing wind-wave-platform interactions in basin tests, and hybrid approaches that integrate machine learning with physics-based models to refine turbulence closure schemes or predict fatigue hotspots. A special emphasis is placed on methodologies that unify multiscale flow physics—from blade tip vortices to platform surge-pitch dynamics—and translate these insights into design guidelines for next-generation floating turbines. By fostering cross-disciplinary dialog among fluid mechanists, marine engineers, and renewable energy specialists, this issue aims to catalyze breakthroughs in the predictive accuracy, operational resilience, and cost-effective deployment of offshore wind technologies.

### Guest Editors

Prof. Dr. Tian Li

Prof. Dr. Zhenqing Liu

Prof. Dr. Shaopeng Li

### Deadline for manuscript submissions

31 December 2025



## Journal of Marine Science and Engineering

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## About the Journal

### Message from the Editor-in-Chief

The *Journal of Marine Science and Engineering* (JMSE, ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

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### Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi  
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