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Maritime Engineering

Editorial

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The editorial team gladly welcomes every single reader to the third issue of Maritime Engineering, in 2025. Since our recent changes, the journal as now registered a recovery trend in its impact indicators, hence we hope that the present issue raises the interest of our community, and we welcome future top-quality submissions from both practitioners and researchers.

In this third issue, contributions align with three key areas of maritime engineering, soil–structure interactions, applied data forecasting and structural design matters. The present issue owes to our desire of ensuring that novel contributions can cover a broad scope within the fields related to maritime engineering.

The issue comprises a first paper on the topic of axial tensile behaviour of steel-concrete composite submarine pipelines, where Wang *et al*. (2025a) provide a competitive application prospect in the deep-sea energy exploitation. The authors provide detailed analytical research on the axial tensile behaviour of steel–concrete double-skin composite pipes influenced by the hydraulic pressure. It is worthy of note the contribution provided with a new design method considering the referred pressure to estimate the tensile capacity. This work is in line with several of the contributions published in our esteemed journal in relation to structural aspects of maritime and offshore structures, e.g. Zhu and Cao (2024).

In the second paper, Huang *et al*. (2025), the authors address a key limitation in cutter suction dredger operations: the lack of real-time feedback on underwater soil conditions due to delayed concentration meter readings. To overcome this, they propose a novel time-series forecasting framework – ITCNet – for predicting slurry concentration near the cutter head. By identifying and selecting relevant features from the excavation process and introducing a velocity-integrated time compensation method, the model aligns data more accurately in time. Tested on real-world data, ITCNet outperformed four baseline models, delivering accurate multi-step predictions up to 15 seconds ahead. This advancement is crucial, as it equips operators with timely information, improving decision-making and operational efficiency.

While dredging operations remain as a key maritime engineering activity, the interaction of flow-soil-structures is also another area full of challenges. In Wang *et al*. (2025b), a novel 3D experimental system to investigate how cyclic lateral vibrations affect sand deformation around monopile foundations is presented. This is an area previously explored mostly through simplified 2D models. Using a semi-cylindrical monopile and multi-camera setup, they captured the complex deformation and terrain changes in 3D. Their findings show that sand deformation begins with shear shrinkage and transitions into shear dilation, with the monopile's displacement amplitude being the dominant influencing factor. The study also highlights the role of vibration frequency in accelerating deformation. Furthermore, an empirical equation was proposed to model the temporal evolution of 3D sand behaviour, offering valuable insights for improving the design and safety of offshore monopile foundations, which are crucial for several activities including offshore wind energy (Ishtiyak *et al*., 2023).

With this nice set of contributions to several fields of maritime engineering, we warmly welcome our readers to look at this new issue, which marks the entrance on the second half of 2025, where Maritime Engineering remains keen on receiving state-of-the-art contributions from all over the World.

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