
Editorial

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Compared to land transportation, waterborne transportation has many advantages such as lower carbon emissions, lower costs and lower likelihood of congestion. Naturally, there are also accidents of a different nature and with different consequences that are associated with waterborne transport activity. It is therefore necessary to develop novel techniques aimed at accident prevention, and measures for consequence mitigation.

Emerging technologies such as big data, high-performance computing, artificial intelligence and resilience engineering have had a profound impact on ways to improve waterborne transportation safety. They enable us to understand, estimate and mitigate risks in a much more informed way.

This special issue of the *International Journal of Shipping and Transport Logistics* brings together six papers with the theme of waterborne transport information and safety. The six papers cover a variety of subjects within this broad theme and address some of the main issues concerned with maritime and inland waterway safety. They adopt a variety of novel approaches to the issue and each paper gives a valuable insight into a specific topic.

The special issue starts with the research on remote interactive platform for matching design of ship screw propeller and diesel engine conducted by Yang and Hu. In the paper, a screw propeller matching computing platform is designed to provide an engineering basis for the online working condition monitoring of the ship power system and the dynamic matching of the ship propeller in the 'Internet Plus' environment in future.

Zhang et al. propose the use of an ant colony algorithm based on node weights and edge weights for ship trajectory reconstruction, so as to reduce the uncertainty in the application of sparse ship trajectory data in the open sea. Furthermore, this study also uses the reconstructed trajectory to extract the distribution of ship traffic flow in the investigated area in order to test the proposed method for the reconstruction of trajectory in a large scale.

The paper authored by Alghanmi et al. apply a mathematical model to identify and evaluate the operational hazards associated with petroleum transportation systems (PTSS) by incorporating a fuzzy rule-based (FRB) method with Bayesian networks (BNs). Safety operations of crude oil terminals, pipelines, and ships are considered and altogether 113 hazards associated with the PTSS operations are finally identified. This study provides decision-makers with an advanced risk analysis tool capable of dealing with the issues such as lack of existing data and high level of uncertainty in PTSS operational assessment.

In the research of Li et al. a two-phase approach is adopted to separate the inland container ship stowage planning problem into two levels: multi-port master bay plan problem (MP-MBPP) on full route and slot plan problem (SPP) for each bay at each port. Three typical inland container ships are chosen to verify the proposed algorithms.

In order to improve the emergency preparedness ability in ship management, Tac et al. develop an approach to identify and quantify the influencing factors to ship emergency preparedness demonstrated in drills on-board. In the paper, while the DEMATEL method enables to identify and analyse the critical factors with respect to causal-effect relation, fuzzy sets tackle the uncertainty in decision-making. A real shipboard firefighting drill is applied for demonstration purposes.

The last paper addresses the impact of information sharing on installation processes of offshore wind farms. Beinke et al. conduct the research based on four steps including process mapping, analysis, concept, and evaluation. The simulation results verify that sharing information between supply chain partners can contribute to more efficient logistics processes.

The topical and wide-ranging researches discussed in these six papers are timely contribution to the important debate about how emerging technologies can be used to enhance the safety in the maritime and inland waterway sectors. Finally, we would like to thank all the authors for their contributions and for the reviewers for providing timely feedback to help the authors improve their articles.