

Editorial

Peter R. Wellens

Editor-in-chief

Dear readers of International Shipbuilding Progress,

Nearing the end of the year, we, the editorial board of ISP, need to reflect on the untimely passing of prof.dr.ir. Cees van Rhee in the summer of 2023. Cees was a valued member of our team. He spoke with authority and needed few words to distinguish between what made sense and what was nonsense. Cees specifically oversaw submissions from the field of dredging engineering, to which he himself had made valuable contributions. Dredging engineering and deep sea mining have much future potential, but there are also many challenges on the way, one of which being how to minimise adverse effects on the environment. Cees and his collaborators performed and stimulated research into the fundamental processes regarding pick-up, transport and settlement of particles in flows, convinced of the fact that understanding of these processes would benefit efficiency, the environment and the ships that are required to support the high-tech dredging and mining equipment of the future. Cees will dearly be missed.

Issue 70(2) contains the following articles.

The first article, titled *Force and water jet impact reduction on adjacent structures by means of free surface breakwaters* by Holkema *et al.* discusses extreme free surface wave interaction with specific structures that feature a recessed part of the hull. Wave amplification within that recess can lead to overturning waves with jets that impinge on other structures. This phenomenon limits the workability of the structure at sea. The article investigates whether placing plate breakwater structures in the recess reduces the occurrence of the jets and the magnitude of the load they can exert, so that the workability potentially is increased.

The next article is titled *Design and feasibility of a 30- to 40-knot emission-free ferry* and written by Doornebos *et al.* Investigating emission-free ships is in line with the Sustainable Development Goals that ISP will soon explicitly endorse. Early design trade-offs were investigated, after which parametric design was used as an instrument to investigate the feasibility of an emission-free ship in the Chinese Pearl River Delta. The investigation yielded not one but several emission-free sources of fuel that can be used for a ferry in said delta. Future work intends to investigate a more detailed design of this ferry that includes other important aspects of the ship's operation, as well as the applicability of the feasibility study with the parametric approach to larger ferries and other ship types.

Wenink and colleagues applied another type of design method with concepts from the field of optimisation in *Multi-fidelity Kriging Extrapolation together with CFD for the Design of the Cross-section of a Falling Lifeboat*. Computational Fluid Dynamics (CFD) is a strong tool for the evaluation of final designs, but is often too time-intensive to use in earlier design stages. The procedure called Kriging tries to maximise the amount of information for taking a design decision while minimising the cost, in this case computational effort, through establishing a surrogate model. Multi-fidelity Kriging algorithms combine information from different levels of reliability, i.e. with different expected values of the error with respect to reality, to establish an appropriate surrogate. Multi-fidelity Kriging was combined with CFD to find the cross-section of the nose of a falling life boat that had the lowest deceleration upon impact, so as to reduce the discomfort of those aboard the life boat.

The editorial board and I wish that you find this issue interesting and convey our best wishes for the new year.

All the best,

Peter Wellens
Editor-in-chief