



Hydrodynamic Design of Ships

Guest Editor:

**Prof. Dr. Gregory
Grigoropoulos**

Department of Naval
Architecture and Marine
Engineering, National Technical
University of Athens (NTUA),
Athens, Greece

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Message from the Guest Editor

Dear Colleagues,

During the last two decades, the idea of designing a ship with satisfactory hydrodynamic performance in calm water and in waves evolved to the implementation of formal optimization strategies on existing (parent) hull forms to improve both the resistance and propulsion characteristics as well as its dynamic responses in actual seaways. Aiming to reduce operating expenses, the main target is to minimize the fuel consumption in all sailing conditions. Recently, the focus on environmental protection and the reduction of the emission of Green House Gases (GHG) as well as CO₂ formed a strong push towards the optimization of the operation of ships which is feasible mainly via the optimization of their hydrodynamic performance and the improvement of the performance of their main engines. The hull form optimization is based on a variety of hydrodynamic algorithms to evaluate the resistance, propulsion, and the seakeeping characteristics of the ship using potential or viscous flow calculations and it is finally evaluated by model tests.

Prof. Gregory Grigoropoulos

Guest Editor





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Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi
School of Engineering, The UWA
Oceans Institute, The University
of Western Australia, Perth, WA
6009, Australia

Message from the Editor-in-Chief

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*Journal of Marine Science and
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MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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