

Editorial

Marine Engines Performance and Emissions II

María Isabel Lamas Galdo 

Escuela Politécnica de Ingeniería de Ferrol, CITENI, Campus Industrial de Ferrol, Universidade da Coruña, Mendizábal, 15403 Ferrol, Spain; isabel.lamas.galdo@udc.es

Engines are one of the most important components of ships. The performance of marine engines has been consecutively improved over the years, and current marine engines are more efficient year by year. Regarding emissions, marine engines have also been modified over the years. Nevertheless, marine pollution constitutes an important contribution worldwide. The scientific community is investing significant effort in developing efficient and less pollutant marine engines. According to this, the Special Issue, “Marine Engines Performance and Engines”, published as a book [1], was prepared to collect works relating to marine engine performance and emissions in general. A total of 12 works [2–13] were published in this first Special Issue. In order to continue this work, the present Special Issue, “Marine Engines Performance and Engines II”, was developed to include more works related to this topic, such as emissions from marine engines, after-treatments, conventional and alternative fuels, mathematical models, marine engine technology, combustion, design, control, injection, lubrication and lubes, auxiliary systems, transport, etc. A total of nine works were published in this second Special Issue.

A special interest was focused on new technologies. Particularly, Markovič et al. [14] analyzed a new generation of the compact system for performing measurements of sold liquids by gas station dispensers; Jírová et al. [15] analyzed an original vibrodiagnostic device to control linear rolling conveyor reliability; Živčák et al. [16] analyzed how to increase the mechanical properties of 3D printed samples by direct metal laser sintering using heat treatment processes; and Varbanets et al. [17], who studied an acoustic method for the estimation of marine low-speed engine turbocharger parameters. Another important topic broached in this Special Issue was related to emissions from marine engines. In this regard, Kao et al. [18] analyzed an AIS-based scenario simulation for the control and improvement of ship emissions in ports. Regarding emission reduction by using alternative fuels, Rodríguez et al. [19] analyzed the possibilities of ammonia as both fuel and NO_x reductant in marine engines, and Jablonický et al. [20] developed an assessment of the technical and ecological parameters of a diesel engine in the application of new samples of biofuels. Regarding emissions reduction using post-treatment processes, Ryu and Park [21] analyzed a composite scrubber with a built-in silencer for marine engines. Finally, numerical methods were treated on the works of Rodríguez et al. [19] and Maláková et al. [22].

Conflicts of Interest: The author declares no conflict of interest.



Citation: Lamas Galdo, M.I. Marine Engines Performance and Emissions II. *J. Mar. Sci. Eng.* **2022**, *10*, 1987.
<https://doi.org/10.3390/jmse10121987>

Received: 30 November 2022

Accepted: 8 December 2022

Published: 14 December 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

References

1. Lamas Galdo, M.I. Marine Engines Performance and Emissions. *J. Mar. Sci. Eng.* **2021**, *9*, 280. [[CrossRef](#)]
2. Puškár, M.; Kopas, M.; Sabadka, D.; Kliment, M.; Šoltésová, M. Reduction of the Gaseous Emissions in the Marine Diesel Engine Using Biodiesel Mixtures. *J. Mar. Sci. Eng.* **2020**, *8*, 330. [[CrossRef](#)]
3. Sui, C.; de Vos, P.; Stapersma, D.; Visser, K.; Ding, Y. Fuel Consumption and Emissions of Ocean-Going Cargo Ship with Hybrid Propulsion and Different Fuels over Voyage. *J. Mar. Sci. Eng.* **2020**, *8*, 588. [[CrossRef](#)]
4. Perez, J.R.; Reusser, C.A. Optimization of the Emissions Profile of a Marine Propulsion System Using a Shaft Generator with Optimum Tracking-Based Control Scheme. *J. Mar. Sci. Eng.* **2020**, *8*, 221. [[CrossRef](#)]
5. Winnes, H.; Fridell, E.; Moldanová, J. Effects of Marine Exhaust Gas Scrubbers on Gas and Particle Emissions. *J. Mar. Sci. Eng.* **2020**, *8*, 299. [[CrossRef](#)]
6. Kim, K.-H.; Kong, K.-J. One-Dimensional Gas Flow Analysis of the Intake and Exhaust System of a Single Cylinder Diesel Engine. *J. Mar. Sci. Eng.* **2020**, *8*, 1036. [[CrossRef](#)]
7. Lamas Galdo, M.I.; Castro-Santos, L.; Rodriguez Vidal, C.G. Numerical Analysis of NO_x Reduction Using Ammonia Injection and Comparison with Water Injection. *J. Mar. Sci. Eng.* **2020**, *8*, 109. [[CrossRef](#)]
8. Witkowski, K. Research of the Effectiveness of Selected Methods of Reducing Toxic Exhaust Emissions of Marine Diesel Engines. *J. Mar. Sci. Eng.* **2020**, *8*, 452. [[CrossRef](#)]
9. Lehtoranta, K.; Koponen, P.; Vesala, H.; Kallinen, K.; Maunula, T. Performance and Regeneration of Methane Oxidation Catalyst for LNG Ships. *J. Mar. Sci. Eng.* **2021**, *9*, 111. [[CrossRef](#)]
10. Lamas, M.I.; Castro-Santos, L.; Rodriguez, C.G. Optimization of a Multiple Injection System in a Marine Diesel Engine through a Multiple-Criteria Decision-Making Approach. *J. Mar. Sci. Eng.* **2020**, *8*, 946. [[CrossRef](#)]
11. Homišin, J.; Kaššay, P.; Urbanský, M.; Puškár, M.; Grega, R.; Krajňák, J. Electronic Constant Twist Angle Control System Suitable for Torsional Vibration Tuning of Propulsion Systems. *J. Mar. Sci. Eng.* **2020**, *8*, 721. [[CrossRef](#)]
12. Shen, H.; Zhang, J.; Yang, B.; Jia, B. Development of a Marine Two-Stroke Diesel Engine MVEM with In-Cylinder Pressure Trace Predictive Capability and a Novel Compressor Model. *J. Mar. Sci. Eng.* **2020**, *8*, 3020. [[CrossRef](#)]
13. Píštěk, V.; Kučera, P.; Fomin, O.; Lovska, A. Effective Mistuning Identification Method of Integrated Bladed Discs of Marine Engine Turbochargers. *J. Mar. Sci. Eng.* **2020**, *8*, 379. [[CrossRef](#)]
14. Markovič, J.; Živčák, J.; Sága, M.; Tarbajovský, P. New generation of the compact system for performing measurements of solid liquids by gas station dispensers. *J. Mar. Sci. Eng.* **2022**, *10*, 524. [[CrossRef](#)]
15. Jírová, R.; Pešík, L.; Grega, R. An Original Vibrodiagnostic Device to Control Linear Rolling Conveyor Reliability. *J. Mar. Sci. Eng.* **2022**, *10*, 445. [[CrossRef](#)]
16. Živčák, J.; Nováková-Marcinčinová, E.; Nováková-Marcinčinová, L.; Balint, T.; Puškár, M. Increasing Mechanical Properties of 3D Printed Samples by Direct Metal Laser Sintering Using Heat Treatment Process. *J. Mar. Sci. Eng.* **2021**, *9*, 821. [[CrossRef](#)]
17. Varbanets, R.; Fomin, O.; Píštěk, V.; Klymenko, V.; Minchev, D.; Khrulev, A.; Zalozh, V.; Kučera, P. Acoustic Method for Estimation of Marine Low-Speed Engine Turbocharger Parameters. *J. Mar. Sci. Eng.* **2021**, *9*, 321. [[CrossRef](#)]
18. Kao, S.-L.; Chung, W.-H.; Chen, C.-W. AIS-Based Scenario Simulation for the Control and Improvement of Ship Emissions in Ports. *J. Mar. Sci. Eng.* **2022**, *10*, 129. [[CrossRef](#)]
19. Rodríguez, C.G.; Lamas, M.I.; Rodríguez, J.d.D.; Abbas, A. Possibilities of Ammonia as Both Fuel and NO_x Reductant in Marine Engines: A Numerical Study. *J. Mar. Sci. Eng.* **2022**, *10*, 43. [[CrossRef](#)]
20. Jablonický, J.; Feriancová, P.; Tulík, J.; Hujo, L.; Tkáč, Z.; Kuchar, P.; Tomić, M.; Kaszkowiak, J. Assessment of Technical and Ecological Parameters of a Diesel Engine in the Application of New Samples of Biofuels. *J. Mar. Sci. Eng.* **2022**, *10*, 1. [[CrossRef](#)]
21. Ryu, M.-R.; Park, K. Analysis of Composite Scrubber with Built-In Silencer for Marine Engines. *J. Mar. Sci. Eng.* **2021**, *9*, 962. [[CrossRef](#)]
22. Maláková, S.; Puškár, M.; Frankovský, P.; Sivák, S.; Harachová, D. Influence of the Shape of Gear Wheel Bodies in Marine Engines on the Gearing Deformation and Meshing Stiffness. *J. Mar. Sci. Eng.* **2021**, *9*, 1060. [[CrossRef](#)]