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Editorial

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Renewable Energy and Oceanic Structures: Part IV

1 José A.F.O. Correia PhD, MSc, CEng

Researcher, Department of Civil Engineering, Faculty of Engineering,
University of Porto, Rua Dr. Roberto Frias, s/n, 4200-465 Porto,
Portugal

2 Tiago Fazeres-Ferradosa PhD, MSc, CEng

Researcher, Faculty of Engineering of the University of Porto,
Department of Civil Engineering, Hydraulics, Water Resources and
Environmental Division, CLIMAR – Interdisciplinary Centre of Marine
and Environmental Research, Marine Energy Research Group, Porto,
Portugal, Rua Dr. Roberto Frias, s/n, 4200-465 Porto, Portugal

3 Shun-Peng Zhu PhD, MSc, MEng

Professor, School of Mechanical and Electrical Engineering,
University of Electronic Science and Technology of China, Chengdu,
China

4 Abílio M.P. De Jesus PhD, MSc, MEng

Associate Professor, Department of Mechanical Engineering,
Faculty of Engineering, University of Porto, Rua. Dr. Roberto Frias,
s/n, 4200-465 Porto, Portugal

Maritime Engineering covers the investigation on safe and sustainable engineering in salt-water environment and publishes scientific and technical works regarding the management, planning, design, analysis, construction, operation, maintenance and applied research related to renewable energy and oceanic engineering. Works from industry and academia are published in this journal conveying advanced research on developing, designing or constructing schemes, as well as good practices in the field.

This issue on Renewable Energy and Oceanic Structures (Correia *et al.*, 2019a) corresponds to the fourth part of the selected papers from the thematic session (Alessi *et al.*, 2019) with the same name that took place at the Faculty of Engineering of the University of Porto, on 5–7 September 2018. The first part related to this thematic (Correia *et al.*, 2019a) included the following aspects (Rege and Pavlou, 2019; Pavlou and Correia, 2019; Jiang *et al.*, 2019): structural integrity of offshore structures; dynamic response of pipelines under flexural loads; and finally, the assessment of wave energy resources. The second part (Correia *et al.*, 2019b) covered the topics related to the floods & floodworks, hydraulics & hydrodynamics, dredging & reclamation, foundations, fatigue, maintenance & inspection, risk & probability analysis (Tanim *et al.*, 2019; Dang *et al.*, 2019; Fazeres-Ferradosa *et al.*, 2019). The third part (Correia *et al.*, 2020) was focused in the following topics: maritime engineering; offshore engineering; mathematical modelling; failure analysis; and, risk & probabilistic analysis. Meng *et al.* (2020a) presented an investigation on the collaborative design of maritime/offshore

structures based on reliability analysis and sequential optimisation. On the other hand, the scientific work developed by Wang *et al.* (2020) focused in an advanced investigation based on multi-population genetic algorithm to improve the computational efficiency of dynamic probabilistic assessment of complex structures.

This fourth thematic issue on Renewable Energy and Oceanic Structures of the Proceedings of the ICE in *Maritime Engineering* focuses on the following topics: maritime engineering, offshore engineering, mathematical modelling, fatigue and risk & probabilistic analysis.

The first paper (Meng *et al.*, 2020b) proposed a reliability-based design and optimisation (RBDO) with a mean-value second-order saddle point approximation strategy applied to design problem of a wellhead platform. RBDO approach combined with a saddle point approximation proved to be a powerful method to enhance the reliability of offshore structures. An engineering case study was selected to illustrate the proposed method.

In the second paper (Mourão *et al.*, 2020), the authors proposed a global-local fatigue methodology applied to an offshore jacket-type platform of welded tubular joints using a local approach based on a notch strain damage parameter. In this research work, the local stress/strain histories were computed through the Neuber's rule combined with the Ramberg-Osgood description using cyclic elastoplastic behaviour for the structural steel under consideration.

The maximum stress concentration factor was used. Fatigue damage accumulation was calculated using the Palmgren-Miner linear damage rule and the design strain-life curve proposed by the Coffin–Manson relation.

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