

Special Issue

State-of-the-Art Innovations in HVDC and Subsea Cable Systems: Materials, Design, Testing, and Sustainable Integration

Message from the Guest Editor

In the past decade, remarkable progress has been achieved in developing, designing, and testing subsea cable systems, driven by advances in materials science, computational modelling, and sustainability practises. This Special Issue highlights state-of-the-art research and practical solutions addressing the challenges and opportunities associated with subsea cable technologies. We invite contributions on topics that include, but are not limited to:

- Advanced materials for subsea cables, including nano-filled polymers and environmentally friendly options;
- Design and modelling techniques for optimizing electrical, thermal, and mechanical performance;
- Cutting-edge testing methodologies, including partial discharge, mechanical stress evaluations, and remaining life estimation;
- Sustainable development strategies, including lifecycle analysis, recyclability, and environmental impact assessments;
- Diagnostic and maintenance approaches, such as online monitoring, fault detection, and expert systems;
- Innovations in cable reliability include digital twin modelling and integration into smart grids.

Guest Editor

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Deadline for manuscript submissions

closed (1 June 2025)



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About the Journal

Message from the Editor-in-Chief

The *Journal of Marine Science and Engineering* (JMSE, ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

Editor-in-Chief

Prof. Dr. Charitha Pattiaratchi
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