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Fatigue Design and Life Assessment of Offshore Wind Turbines

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Deadline for manuscript submissions:
closed (30 April 2022)

Message from the Guest Editor

An efficient source of renewable energy, which is increasingly the preferred solution for realising the world's short- and long-term energy ambitions, is offshore wind. Offshore wind turbines (OWTs) are typically designed for 20–25 years of operation with their foundations made of steel structures. During their lifespan, these offshore structures are subjected to cyclic loading conditions in corrosive environments introducing corrosion-fatigue damage in the material.

In this Special Issue, we seek to provide a wide set of articles on various aspects of material selection, analysis of the loading conditions and degradation mechanisms in the context of structural design, integrity, and reliability engineering of OWT steel structures. Articles on the materials and microstructures, structural life assessment, risk and reliability engineering, and O&M analysis of OWTs are desired. Experimental, numerical, and analytical studies with sufficient level of contribution to knowledge are equally encouraged for publication in this Special Issue.

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Message from the Editorial Board

Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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