



Nonlinear Wave–Structure Interactions and the Development of Advanced Numerical Models

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Message from the Guest Editors

Nonlinear wave–structure interactions have posed a variety of challenges for the design and analysis of marine offshore structures, especially for the fast development of offshore renewable energies. Studies of the nonlinear wave–structure interactions will contribute to the development of science and engineering in the offshore industry. Numerical simulations have become common for nonlinear analysis, and advanced numerical models with high efficiency, accuracy and robustness are in demand.

Aim and scope:

This Special Issue will focus on the study of water wave–structure interactions with attention to nonlinear effects. Recent developments of advanced numerical models and high-fidelity numerical simulations are encouraged to be reported. The Special Issue will cover the following topics:

- Nonlinear wave theory;
- Second-order and tertiary wave interactions;
- Higher harmonic effects on wave structure interactions;
- Breaking waves and waves slamming on structures;
- Boundary element method;
- Finite element method;
- Volume of fluid method;
- Spectral method;
- Computational fluid dynamics;
- Any other methods such as SPH and LBM





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Message from the Editor-in-Chief

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