



Ship Motions and Wave Loads

Guest Editors:

Dr. Jialong Jiao

School of Civil Engineering and
Transportation, South China
University of Technology,
Guangzhou, China

Dr. Tahsin Tezdogan

Department of Naval
Architecture, Ocean and Marine
Engineering, University of
Strathclyde, Glasgow G4 0LZ, UK

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Message from the Guest Editors

Dear Colleagues,

The prediction of ship motions and loads induced by waves is a central problem of hydrodynamics and is fundamental for structural design. A wide variety of potential flow theories have been developed to estimate motions, wave loads, and the hydroelasticity of ships in waves. Recently, the computational fluid dynamics (CFD) technique has also rapidly developed as a novel tool to address these problems. Tank model tests and sea trials have also been conducted to experimentally investigate the seakeeping and wave loads of ships. However, due to the complexity of interactions between water waves and arbitrary shape moving bodies in the presence of free surface and forward speed, the problems of wave-induced ship motions and loads are still far from being satisfactorily addressed, especially for problems involving high forward speed, harsh weather, instantaneous wetted surface, irregular sea waves, and strong nonlinear slamming loads.

This Special Issue aims to gather the latest developments in the prediction of ship seakeeping and wave loads by theoretical, numerical, and experimental studies.

Dr. Jialong Jiao
Dr. Tahsin Tezdogan
Guest Editors





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Editor-in-Chief

Prof. Dr. Tony Clare

School of Natural and
Environmental Sciences,
Newcastle University, Newcastle
upon Tyne NE1 7RU, UK

Message from the Editor-in-Chief

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*Journal of Marine Science and
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