Osaka University
Graduate School of Engineering
Department of Naval Architecture & Ocean Engineering

Hydro-Seminar

by Lab. of Floating-Body Dynamics in Waves

The speaker in the 52nd Hydro-Seminar is

Mr. Jacob Hicks (PhD student)

Section for Fluid Mechanics, Coastal, and Maritime Engineering
Department of Mechanical Engineering,
Technical University of Denmark

Date: Tuesday 16 April, 2019
Time: 16:00 – 17:00
Venue: S1-412 (Lecture room, 4F of S1 building)
Suita Campus, Osaka University

Development of a potential flow solver including wave-structure interaction

Abstract

Quantifying wave loads on marine structures is often critically important in both their design and active lifetime. As wind turbines and offshore platforms operate in deeper waters, accurate and reliable modelling of deep-water waves becomes crucial in understanding the wave loads such structures must withstand. This presentation introduces current progress in fully nonlinear wave-structure interaction, modelled with an arbitrary order, finite-difference based potential flow solver developed at DTU. Details of the solver will be discussed and results presented for highly nonlinear wave generation by moving boundaries, including comparison with experimental data. Finally, current challenges and future prospects will be presented.

Acknowledgement

The research leading to these results has received funding from the Danish Hydrocarbon Research and Technology Centre (DHCRT), as part of the Dynamics of Extreme Waves and their Interaction with Offshore Structures (DEWIOS) project.

The Speaker: Mr. Jacob Hicks

Jacob Hicks received his Bachelor and Master degrees from the Technical University of Denmark in 2014 and 2017. After working briefly as a research assistant, he started his PhD project under the supervision of Harry B. Bingham, Allan P. Engsig-Karup, Robert Read, and Ole Lindberg. He is currently on a research visit at Osaka University, under the supervision of Professor Masashi Kashiwagi. The main focus of his research is nonlinear wave-structure interaction.

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