You are cordially invited to a seminar organized by Centre for Offshore Research and Engineering (CORE) and Department of Civil and Environmental Engineering

“Challenges of Mooring Reliability Analysis”

By

Darrell Leong

PhD Candidate in NUS, Research Engineer in Lloyd’s Register Global Technology Centre

Date: Wednesday, 29 March 2017
Time: 4:30 pm to 6.00 pm
Refreshment will be served at 4.15pm
Venue: EA #06-04, Executive Seminar Room, Faculty of Engineering, National University of Singapore

Abstract

With the operating envelope for moored floating units is being extended to deeper waters and harsher environments for longer service lives, the need for rational decision-making in the face of ever-expanding uncertainty requirements limits the suitability of prescriptive design rules, and increasing a demand for reliability studies on mooring structural integrity. The perplexities in long-term probabilistic evaluations of mooring structures are twofold. Firstly, a large number of simulations are required to observe low probability events corresponding to ultimate limit states (ULS). Second, response evaluation of each simulation is not trivial due to complex nonlinearities in a dynamic loading regime. Ergo, reliability studies on mooring systems typically necessitate severe computation effort. This seminar presents various approaches of mooring reliability assessment, and the application of Subset Simulation as a means for evaluating small failure probabilities.

About the speaker

Mr Darrell Leong is currently a PhD candidate in the Department of Civil & Environmental Engineering at the National University of Singapore, and concurrently a research engineer at Lloyd’s Register Global Technology Centre, as part of the Industrial Postgraduate Programme. Heretofore he obtained his BEng with First Class Honours in Mechanical Engineering from Nanyang Technological University. His research interest is in the application of reliability methods on probabilistic assessment of mooring line failure modes.

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***Pre-registration is not required. All are welcome and admission is free***