



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 25th Hydro-Seminar is

Professor Apostolos D. Papanikolaou

Director of Ship Design Laboratory of
the School of Naval Architecture and Marine Engineering
National Technical University of Athens



Date: Tuesday, 12 February, 2013

Time: 15:00 – 16:30

Venue: S1-313 (Lecture room, 3F of S1 building)
Suita Campus, Osaka University

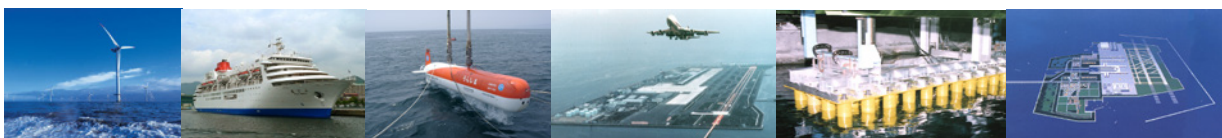
Marine Accidents: Numerical Simulation of the Capsize of Damaged Ships in Waves

Abstract

The presentation derives from past research of the Ship Design Laboratory of NTUA in the analysis of ship accidents and on the damage stability of passenger ships in waves in view of related regulatory developments of IMO (SOLAS 95, Stockholm Regional agreement, Reg. 14). Properly validated numerical simulation methods, allowing the mathematical modelling of the capsize and sinking of damaged ships in waves are of great importance, because of the flexibility to efficiently explore alternative design measures, so as to improve the survivability of ships; also they enable to conduct forensic studies regarding the analysis of important ship accidents. The mathematical background of the NTUA-SDL numerical simulation code CAPSIM, which is a nonlinear 3D time domain panel code, will be elaborated, including applications to the analysis of the sinking of the ferry Express Samina (2000) and the parametric roll of a ferry and fishing vessel in head waves.

The Speaker: Professor Apostolos D. Papanikolaou

Apostolos D. Papanikolaou is Professor of Ship Design and Director of the Ship Design Laboratory of the School of Naval Architecture and Marine Engineering, National Technical University of Athens (NTUA) Greece. His educational, research and professional activities cover a broad area of Naval Architecture and Ocean Engineering. He was and is Principal Investigator of over 70 funded research projects dealing with the design and optimization of conventional and unconventional vessels, the hydrodynamic analysis and assessment of the calm water performance and the performance of ships in seaways, the logistics-based ship design, the stability and safety of ships and related regulatory developments of the International Maritime Organization (IMO). His activities are documented by an extensive publication record of scientific papers, books, technical reports and papers at international conferences (over 480 publications; stand April 2012). He is Chairman of the Executive Committee of IMDC (International Marine Design Conference), member of international scientific committees, co-editor and reviewer of international journals and research projects. He received various international prize awards for his specific and overall research work and his scientific contributions to ship hydrodynamics, innovative ship design and safety assessment; more recently he received the Lloyds List 2009 Greek Shipping award on Technical Innovation in tanker design (jointly with Germanischer Lloyd) and most recently the very prestigious *Dr. K. Davidson medal/award* of the Society of Naval Architects and Marine Engineers (SNAME) for outstanding achievements in ship research (Seattle, Nov. 2010).



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