



Australian Acoustical Society

A.C.N. 000 712 658  
NEW SOUTH WALES DIVISION



## CHRISTMAS BREAKFAST & TECHNICAL MEETING

Date: Thursday 1<sup>st</sup> December 2011

Venue: AECOM, Level 21, 420 George Street, Sydney

Time: Arrive from 7:30 am  
Technical Talk Starts 8:00 am

Speaker: Dr Roger Kinns  
Meeting Noise & Vibration Requirements for Cruise Ship Propellers – From Predictions to Full-Scale Trials

Modern cruise ships have demanding requirements for noise and vibration, while having maximum speeds that can exceed 25 knots. Accommodation for as many as 3,000 passengers extends the full length of the ship and it is common to have principal dining and recreation areas directly above the propellers. Accurate prediction of noise and vibration due to cavitating propellers is key to a successful design. Although podded electric motors with tractor propellers have been used, conventional twin-screw layouts have considerable attractions in terms of cost and maintainability. The propellers then operate in a flow that is disturbed by shafts and their support brackets. Increasingly sophisticated numerical models of hull and propeller characteristics are complemented by model-scale measurements in towing tanks and cavitation tunnels. In this talk, full-scale measurements during sea trials will be compared with predictions for twin-screw ships, including a case where propeller rotation direction was changed during the service life of a ship to improve the vibration environment at high speeds.

Dr Roger Kinns is a Senior Visiting Research Fellowship in the School of Mechanical and Manufacturing Engineering at the University of New South Wales in Sydney, Australia. He joined YARD Ltd in Glasgow during 1975, to develop and apply techniques for the acoustic design of ships and submarines. He lives in Clynder, Scotland and has worked as an independent consultant since 1999, with principal research interests in underwater noise due to marine propulsion systems.

“Anyone” is welcome to attend – Breakfast will be provided

Cost: AAS Members free of charge, Non-members \$15

RSVP FOR CATERING PURPOSES BY

Monday 24<sup>th</sup> November 2011 to Laura Allison by email

[Laura.Allison@aecom.com](mailto:Laura.Allison@aecom.com)

Please include name and company in RSVP

