August 2018

RINA WESTERN BULLETIN

Technical Meeting

Wednesday, 19 September, 17:30 refreshments, 18:00 start
The Meeting Place Community Centre
245 South Terrace, South Fremantle WA 6162, Australia

Ship Motion Predictions and Measurements
&
Marine Archaeology – Plank Sewing Systems

Some Recent Developments in Ship Wave-Induced Motions Prediction and Measurement

Tim Gourlay, PhD, MRINA
Principal, Perth Hydro

Abstract
This presentation will discuss some recent research in wave-induced motions of moving ships, including the following topics:

Wave-induced motions of container ships - comparisons will be shown between OCTOPUS, a strip theory ship motions program, and GNSS measurements of container ship heave, pitch and roll in the Fremantle channel.

Simple ship motion measurements - the use of smartphones for measuring ship motions will be demonstrated, using measurements made on cruise ships, bulk carriers and offshore vessels. Pros and cons of the method will be discussed.

Benchmarking of ship motion codes against model tests - this research follows on from the 2015 benchmarking of AQWA, GL RANKINE, MOSES, OCTOPUS, PDSTRIP and WAMIT against model test results of bulk carrier and container ship wave-induced motions. New model tests have been done at Flanders Hydraulics Research as part of the SHOPERA Joint Industry Project. Preliminary comparisons of DIFFRAC, HYDROSTAR, NEMOH, OCTOPUS, PDSTRIP and WAMIT with these model tests will be discussed.

About the Presenter
Tim is a ship hydrodynamics consultant with Perth Hydro and research associate at Curtin University. He completed his PhD in Applied Mathematics at the University of Adelaide in 2000, studying flow around ships in shallow water. Since then he has worked as a lecturer at the Australian Maritime College and Curtin University, before starting up Perth Hydro in 2016. He now consults to industry on ship hydrodynamics topics such as UKC, dynamic mooring, coupled ship motions, manoeuvring and ship design. He has climbed over 70 pilot ladders for ship motion measurements.

WA Section RINA Committee

Chairperson:	Sammar Abbas
Vice Chair:	Alex Mosnier
Secretary:	Matthew White
Treasurer:	Andy Phillips
Members:	Tim Gourlay
	Cheslav Balash
	Gino Parisella
	Yuriy Drobyshevski
	Nick Bentley
	Ian Milne
	Jinzhu Xia
	Mike Priestly
Division Representative:	Kalevi Savolainen

RINA NEWS & Events

WA Section News
The new committee is busy developing and implementing a few new initiatives, such as:
- Improving the Western Bulletin distribution network
- Providing further presentations from regulatory bodies (AMSA, NOPSEMA, Class etc.)
- Engaging local universities and increasing student numbers

AOG 2019
A new Sub-Committee is to be established with the aim of successfully promoting RINA and its members at AOG 2019.
If you would like to be a part of the planning and coordination efforts, we encourage you to contact the Committee at: WA@rina.org.uk for more information.

RINA WESTERN BULLETIN

Plank Sewing Systems of the Indian Ocean: Their Efficacy, Strength, Durability and Flexibility

Tom Vosmer, BA, MA, MFA, PhD

Abstract

For millennia, historians and travellers in the western Indian Ocean have commented on the sewn boats of the region. From the anonymous author of the 1st-century AD Periplus of the Erythraean Sea, to Procopius in the 6th-century, to Marco Polo in the 13th century, through a succession of European medieval and renaissance explorers, to recent ethnographic and archaeological research, people have commented on the efficacy (or not) of the sewn-plank method so characteristic of indigenous watercraft. Although sewing patterns and materials may vary, the boats all share a common structural concept: carvel planks joined by continuous sewing along their edges. Frames (if present) are lashed to each plank.

Why do the sewing patterns vary? Is it cultural, structural or dictated by the available materials? What effect do the sewing patterns and materials have on the strength and flexibility of the vessels? This talk provides a historical and technical background on Indian Ocean sewn boats and explores ideas for testing sewing patterns and materials to answer some of these questions.

About the Presenter

Tom is a maritime archaeologist specializing in Arab ships of the western Indian Ocean and Arabian Gulf. He led annual maritime-focused expeditions to Oman from 1992-2002, then lived and worked in Oman full-time from 2003 through 2010. Prior to that he supervised in Sur, Oman, the construction of Tim Severin's sewn boom Sohar and sailed aboard from Oman to China in 1980-81.

He also supervised the construction of the reed-built Bronze Age Magan boat and in 2010 was construction director for the medieval Jewel of Muscat sewn-plank ship in Oman. He also served as a consultant on the construction of a 15th-century BC Egyptian ship based on archaeological evidence and the ship reliefs on Pharaoh Queen Hatshepsut's temple at Luxor.

A research associate at the Western Australian Maritime Museum, and adjunct associate professor at UWA, Tom has done maritime ethnographic research or archaeological excavation in Australia, Oman, Qatar, the Maldives, India and Sri Lanka, Thailand and the Philippines. He has consulted on or helped build historic ships in Egypt, Greece, India, Indonesia and Australia as well as Oman.

Event Registration

Please register at the below link:

Ship motion prediction and measurement & Marine Archaeology: plank sewing systems

www.eventbrite.com

RINA News & Events

Australian Naval Architect

The Australian Naval Architect publication will again be calling for articles and news in the near future. Unfortunately, we had a low response rate for the last edition so are looking for a strong response next time around. Stay tuned for more details in the coming months.

Royal Institution of Naval Architects (RINA) – WA Section

LinkedIn page: Join for event updates and discussion!
https://www.linkedin.com/groups/13544061

RINA WA Section Library

The library has been moved to the new premises (Bentley Systems). Access to the library can be arranged by contacting:
Daniel Veen:
Daniel.Veen@bentley.com
James Clarkson:
James.Clarkson@bentley.com
Catalogue in Excel format is available at https://www.rina.org.uk/walibrary

Continuing Professional Development (CPD) Record

This is a reminder that all Fellows, Members and Associate-Members who are in or seeking active work must maintain and develop their competence and knowledge. This requirement is obligatory. The Institution reserves the right to monitor a member's CPD achievement through inspection of the CPD Record. More information on the CPD and recommendations on the format of the Record can be found on the website:
https://www.rina.org.uk/continuing_professional_development.html