

RINA WESTERN BULLETIN

Technical Meeting Notice

Topic:

Why Yacht Rudders Fail

When: Thursday 27th February, 17:30 refreshments, 18:00 start

Where: [Flying Angel Club, 76 Queen Victoria St, Fremantle](#)

Cost: Free

Registration: Not required for this event.

WA Section RINA Committee

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Presentation:

Why yacht rudders fail *Kim Klaka*

Abstract

For most sailing yachts, losing a rudder is probably the most catastrophic structural failure other than losing the keel. Rudder failures happen with distressing regularity – perhaps ten times as often as keels falling off. Why is such a catastrophic failure so common?

Whilst a few rudder failures are doubtless due to corrosion, this presentation examines the hypothesis that the underlying reason is design failure. First-principle rudder force calculations are presented and compared with design codes. The results are startling; choice of design speed and allowable stress are critical. Calculating the rudder load when falling off a wave is also explored, with puzzling results.



About the Presenter

Kim Klaka is a naval architect with over 40 years' experience, much of it in small craft commercial research. He holds a Masters degree and PhD in sailing yacht performance, and has completed more than 30,000 miles of offshore and ocean sailing. He was Director of the Centre for Marine Science and Technology at Curtin University, founding Chair of the WA Section of RINA and founding Editor of the Australian Naval Architect journal.

He is currently a member of the Editorial Board of RINA's International Journal of Small Craft Technology.

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RINA NEWS & Events:



AOG 2020

RINA WA is proud to confirm our involvement in this year's AOG 2020. We will have a booth at the event and have organised a stream of presenters as part of the [AOG Knowledge Forum](#). Speakers will present across the disciplines of Renewable Energy, Offshore Installation, Floating Systems and Digitisation of the Offshore Marine Industry. Further details can be found below.

RINA Booth

The RINA booth will be located at Stand D27. A provisional floor plan can be found at the following link: <https://aogexpo.com.au/exhibit/floor-plan/>

RINA Chief Executive

Trevor Blakeley, RINA Chief Executive, from London will also be attending AOG 2020. Trevor will be making appearances at the booth and at the Technical Forum.

Technical Forum

The RINA Technical Forum will be held on Friday the 13th of March in the ['Knowledge Forum'](#) at AOG 2020. The program of speakers shall be as follows:

Session 1: Floating Solutions: Fixed and Floating Offshore Structures	
9:30 am	Lasse Isaksen, Jotun, "How to care for the old – offshore installations"
10:00 am	Yuriy Drobyshovski, NavTec Pty Ltd, "Response Based Design and Classification Society Rules: Evolution Towards Common Basis"
Session 2: Offshore Operations: Ships for Offshore Operations / Offshore Installation	
10:45 am	Jeff Baker, Lloyds Register, "Purpose designed LNG bunkering vessels (LBV): a 2020 update on characteristics and features"
11:15 am	Holger Kelly, INCITIAS Pty Ltd, "Reeled Floating Hose Systems as a Cost-Effective Alternative to Traditional Jetties for Liquid Terminal Operation"
Session 3: Marine Renewable Energy: Renewable Energy Offshore Structures and Systems	
12:00pm	Tim Sawyer, Floatation Energy plc, "Development of Offshore Floating Windfarms"
12:30pm	Daniel Veen, Bentley Systems, "OpenWindPower - Validation of a structural analysis and design solution for floating offshore wind turbines"
Session 4: Offshore Marine Digitalization: Application of Digital Technology to the Offshore and Marine Industries	
01:30pm	Ken Goh, Knud E Hansen Australia, "Collaboration with Virtual Reality Tools for Offshore Operations"
02:00pm	Jeff Baker, Lloyds Register, "The role of Digital Twins in Oil and Gas Compliance"

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RINA NEWS & Events

Upcoming Technical Presentations

RINA WA is always looking for interesting technical presentations and people to present them. If you have a topic or know of someone who does, please feel free to contact the WA section and we can look at getting it added to our event calendar.

The current event program can be found below:

Date	Topic #1 / Author	Topic #2 / Author	Venue
27 Feb 2020	Why yacht rudders fail - Kim Klaka	-	Flying Angel Club, Fremantle
11-13 Mar 2020	AOG 2020		Perth Exhibition Centre
May 2020 TBC	Some recent developments in dynamic mooring analysis for ships - Tim Gourlay	Annual General Meeting (AGM)	Engineers Australia, West Perth
July 2020 TBC	Novel Platforms for Research Vessels - Ken Goh, John Chappell, Knud E Hansen		Engineers Australia, West Perth

Australian Naval Architect

Thank you to all those who responded to our call for news for the ANA, it won't be long until we are asking again so please start thinking and composing your news so we can again have a strong representation from the WA Section.

LinkedIn

Join for event updates and discussion.



[Royal Institution of Naval Architects \(RINA\) – WA Section](#)

YouTube



RINA now has a YouTube channel where presentations from around the world will be made available, click the following link to check out what has already been uploaded:

https://www.youtube.com/channel/UChb1sfHbWfQmG-iwpp_QGJg

RINA WA Section Library

The library is now located at 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