



**RINA**  
NSW SECTION



**IMarEST**  
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## **RINA/IMarEST Technical Presentation**

### **Seakeeping of a Surfaced Underwater Vehicle**

<b>Presenter</b>	Mathieu Courdier PhD Candidate Australian Maritime College
<b>Date</b>	Wednesday 6 April 2022
<b>Time</b>	6:30 pm AEST
<b>Meeting</b>	This presentation will be held as a video-conference webinar using the Zoom software platform hosted by RINA. Registration for the presentation is <i>not</i> required (see below).

Underwater vehicles (UV), like drones and gliders, are widely used in the industrial and scientific world, as they allow for easy, safe and cheap access to operations. Submarines also are important in navies as they provide unrivalled operational advantages. Despite being used at depths, UVs are required to travel on the sea surface for some period of time, where they are subject to waves. However, most of the hydrodynamic knowledge applicable to conventional surface ships is not relevant to UVs due to their particular hullforms. Also, hydrodynamics is of critical importance, as it defines the ability of a UV to carry out its mission: hence seakeeping, resistance and manoeuvrability form the subjects of this research.

The research is undertaken using computational fluid dynamics (CFD) which allows modelling the fluid flow around an UV hull. The variation of such parameters as the speed, the wave height or even the hull shape helps to understand the flow dynamics. But CFD also requires 'real world' validation, and that is carried out through experimental testing at model scale.

**Connection** Join via the Zoom link

<https://us06web.zoom.us/j/86811643287>

Meeting ID 868 1164 3287

Passcode 694472

We look forward to you joining the presentation.