MD001 Postdoc: Maritime Platform Dynamics and Control

Location: Fishermans Bend, Victoria

Overview:
As a member of the Hydroacoustics Group within the Maritime Division, you will directly contribute in the development of simulation models and control systems related to the operation of maritime platforms. This will support the Australian future submarine program and the ongoing sustainment and capability enhancement of the current surface and submarine fleet of the Royal Australian Navy.

The role will contribute to key activities including:
a) Development of tools to simulate submarine and surface platform dynamics and manoeuvring
b) Conduct simulations of submarine and surface platform control systems
c) Organise and conduct experimental work to validate and complement simulations
d) Analyse existing systems and develop new or upgraded control systems for surface and submarine platforms
e) Participate in the upgrade of platform training simulators
f) Participate in external and internal research collaborations linked to platform dynamics and control
g) Conduct research to develop capabilities within the division in the above areas.

Although the position will mainly focus on platform dynamics and control systems, you will be required to work and participate in related areas such as computational and experimental hydrodynamics.

Academic Requirement:

A PhD in one or more of the following areas:
- Mathematical Control Theory
- Control Engineering
- Mechatronics
- Avionics

Other Role Specific Requirements:

Demonstrated experience, or ability, in any or all of the following areas:
- mathematical modelling of systems;
- design of control laws;
- developing, employing and interpreting modelling and simulation tools;
- innovative and high quality analysis of operations and/or systems;
- mathematical optimisation;
- computer programming to support modelling, simulation and control law implementation;
- experiment design and analysis; and/or
- presentation of information and findings through technical reports, publications, and presentations.

Notes:
Appointees will be initially engaged on a **BASELINE** security clearance with an upgrade to a **Negative Vetting 1 Security Clearance** required upon commencement.

Written Application Position Specific Question: (400 words max)
How could you use your qualifications and skills to help enhance the capability of Royal Australian Navy platforms?