

The Royal Institution of Naval Architects

WARSHIP 2011: NAVAL SUBMARINES and UUVs

29 - 30 June 2011, London, UK.

First Notice & Call for Papers



Warships 2011 will be the 31st in the successful Warship series of conferences organised by the Royal Institution of Naval Architects, and the tenth to cover the topic of 'Naval Submarines'.

Submarines are among the most complex of engineering products, comparable in complexity with aerospace projects such as the space shuttle. To design, manufacture and support them in service requires a sophisticated industrial base and the willingness to incur the long term cost of ownership.

Submarines used by the world's major navies have evolved for 'blue water' warfare, in a period when cost was effectively secondary to capability. In this arena, the submarines themselves and their supporting industrial base are well developed, to the point where further change to their overall architecture is limited to incremental or evolutionary development. This situation is now being challenged, both by the desire to reduce the cost of ownership and in response to changing military threats. Submarines are now required to accommodate roles which may change substantially during their service lives, and to undergo continuous updating while minimising the time spent in refit and hence unavailable for service. These changes affect the submarine throughout its lifecycle and the design not only of the submarine but the organisations involved with it.



Warships 2011 will also, for the first time, include the rapidly growing new field of military Unmanned Underwater Vehicles (UUVs), which have an expanding role and are increasing in both complexity and capability.

RINA invites papers on all aspects of the design, construction and operation of Naval Submarines and UUVs, including the following topics:

- Future Submarine requirements and their strategic context.
- Affordable, available and adaptive submarines.
- Management of submarine design information and maintenance of design intent.
- Design and construction
- UUV specific: construction, design, operation
- Novel materials; their underwater application.
- External installation of weapon delivery systems, towed sensors and communications systems.
- Submarine power, propulsion systems and signature management.
- Operating unmanned underwater vehicles from submarines.
- Submarine escape and rescue.
- Assuring submarine safety.
- The environmental impact of submarines.



- ☐ I would like to offer a paper and attach a synopsis of no more than 250 words by 4th Feb 2011
- ☐ I wish to receive details on exhibition space and sponsorship opportunities
- ☐ I would like to receive a full programme brochure and registration form

Name:	Position:
Company:	
Address:	
	Postcode:
Telephone:	Fax:
Email:	(W2011)

In conjunction with:

Please return to: Conference Department, RINA, 10 Upper Belgrave Street, London SW1X 8BQ
by fax on +44 (0)20 7259 5912 or by email: conference@rina.org.uk