



19 April 2013

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**SIA 2<sup>nd</sup> Submarine Science, Technology and Engineering Conference  
15-17 October 2013**

**CALL FOR PAPERS**

2013 will be a crucial year in the progress of Project SEA 1000 – The Future Submarine. Much of this work will focus on the technical challenges and issues associated with those challenges. The Committee of the Submarine Institute of Australia (SIA) has therefore decided to convene the Second Submarine Science, Technology and Engineering Conference of the SIA in Adelaide, SA between 15th and 17th October 2013 inclusive, in the week following PACIFIC 2013 and the Centenary Fleet Review of the Royal Australian Navy.

The theme for the Conference is:

***‘AUSTRALIA’S SUBMARINE ENTERPRISE – BUILDING THE SUBMARINE SCIENCE,  
TECHNOLOGY AND ENGINEERING CAPABILITY’***

One day of the conference focuses on various forms of land-based sites for research, development, test and evaluation, systems integration and also team and individual training and will probably have a parallel stream of another set of papers. While this focus is especially relevant to the development of the Submarine Propulsion, Energy Conversion and Integration Facility [SPECIFY] to be built in South Australia for the submarine program.

The SIA is seeking papers of 20 minutes in length plus 10 minutes for questions during Days 2 and 3 of the conference; there are several opportunities available.

Suggested topics are (but not limited to) as follows:

**Land-based Research, Development, Test, Evaluation, Integration and Training Sites**

- Case studies of land-based test sites relevant to the SPECIFY planning for the FSP;
- Human systems integration for undersea vehicle sensory operation and control;
- Combat system integration, test, evaluation and software development.

**Research and Development, Test and Evaluation Policy and Management**

- Scientific research and development policy and management;
- Network design and evolution for submarines in theatre-wide C4ISR;
- Acoustic communications and signal processing research and education programs;
- Life-cycle approaches to submarine research, development, test and evaluation.

**Engineering Design**

- Hydrostatic and hydrodynamics programs relevant to submarines and other undersea technology applications;
- Naval architecture challenges for integration of unmanned underwater vehicles [UUV] in submarines;
- Submarine safety, escape, survival, rescue and abandonment.

**Workforce Skills Development**

- National and regional engineering and technical skill development, demand and supply relevant to submarine design, construction, operation and sustainment;
- Education programs for systems engineering and systems integration for submarines;
- Materials science and technology education and workforce development.

**Technology**

- Computer-based tools and training in their use for submarine design, development and integration;
- Research, development, education and training associated with air-independent propulsion for submarines;
- Advances in battery technology and electric propulsion.

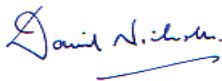
**Complex Program Management**

- Workforce planning for submarine design, construction, operation and sustainment in Australia;
- Acquisition management principles applicable to SEA 1000;
- Management of intellectual property rights for design, construction, operation and sustainment of submarines in Australia;
- Principles and case studies for managing cost-of-ownership and life-cycle sustainment of complex platforms for undersea deployment;
- Lessons to be taken from the Coles Review of Collins Class submarine sustainment.

**Submission Timetable:**

See the SIA website for dates applicable to submission of papers.

The Institute is seeking conference participation from Australian and overseas government and industry representatives, together with other involved organisations. The program includes cocktails on 14th October and a Conference Dinner on 15th October. Further details will be made available under 'Conference 2013' on the SIA website. <http://www.submarineinstitute.com/>, which will also provide the means to submit abstracts and papers.



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