

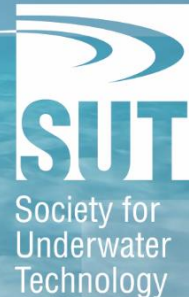


The Australasian Hydrographic Society & The Society for Underwater Technology
co-host their 11th Autonomous Underwater Technology, technical conference & exhibition:

AUT 2019:

An ocean of opportunities

23rd October 2019 ♦ Parmelia Hilton Perth, Western Australia



The AHS/SUT Autonomous Underwater Technology (AUT) Conference is celebrating its eleventh occurrence. The conference has brought to the industry actionable information on the advances in AU technology and applications along with gaining an insight to where the technology is developing. Technological advancements have translated to increases in AUT utilisation, reliability and function across the oil and gas, hydrographic, renewable energy, environmental, research and defence industries, to name a few.

The Australasian region has experienced a significant increase in underwater oil and gas infrastructure associated with LNG field development. This increase in subsea infrastructure, coupled with autonomous technology becoming more mainstream, has created downstream applications in addition to the more traditional upstream applications; such as exploration surveying and export pipeline route development. These include environmental monitoring, pipeline and infrastructure inspections and data harvesting. The Navy are also actively investigating the implementation of AUT across their current operations.

This year the AHS/SUT conference organising committee aims to demonstrate these new applications and different technologies along with supporting the ongoing experiences of the traditional acquisition of underwater data. After 10 prior events, this conference continues to be one of the most important gold standard networking opportunities in this field, allowing contact between pipeline engineers, subsea asset managers, geophysicists, environmental scientists, hydrographic surveyors, defence organisations, oil & gas field development specialists, government bodies, equipment manufacturers, academic & research bodies, oceanographers, survey companies and port & security operators.



Photos courtesy of Fugro

Major Sponsors



Ice Breaker Sponsor



Event Partners



Exhibitors include





AUT 2019

23rd October 2019

Parmelia Hilton Hotel
14 Mill St, Perth, Western Australia



AUT KEYNOTE – Opening Our Eyes

Sail, Steam...Autonomy? AUTs & 21st century Naval Operations Commodore Chris Smith, Royal Australian Navy.

The Royal Australian Navy's transition toward Maritime Autonomous Systems (MAS) for naval operations is comparable to the transition from sail to steam. This change is also underway throughout the world's militaries, and the application of MAS today is already shaping future warfare. This evolution is forcing a paradigm shift in the way business is done. In Australia, the RAN is currently looking at "Off-The-Shelf" solutions, and also supporting innovations in MAS technologies.

This is deliberately blurring the lines between Defence and civilian MAS expertise, whilst also opening the door to countless opportunities for collaboration and cooperative improvement. This paper explores some of the RAN's experimentation with, and integration of MAS; showcasing the importance of collaboration with industry and academia for these uniquely complex systems.

Specific examples examine deployment of MAS for countering sea mines and conducting hydrographic survey, and more broadly, the challenges faced when delivering and supporting such radically different capability. Finally this presentation explores how the future may unfold for MAS-related partnerships between RAN, industry and academia.

BIOGRAPHY - Commodore Chris Smith CSM RAN joined the Royal Australian Naval College in March 1989. He has had many seagoing and shore appointments, and completed operational deployments in the Solomon Islands, the Middle East, and provided humanitarian assistance and disaster relief in Fiji. Commodore Smith holds a Masters of Management in Defence Studies, a Masters in Maritime Studies, and a Masters of Arts (International Relations). He is married with three grown children.



Followed by a presentation by Royal Australian Commander Paul Hornsby.

Ice Breaker Function



Date: Tuesday, 22nd October 2019
Time: 5.30 pm - 8.30 pm
Venue: Belgian Beer Cafe (Cnr King & Murray Streets, Perth 6000)
Cost: \$55 members / \$80 non-members
Details: Enjoy an evening welcoming the conference with drinks and canapes in the west end of Perth's bustling metropolis.
RSVP: AUTicebreaker2019.eventbrite.com.au



Conference Closing Drinks



Date: Wednesday, 23rd October 2019
Time: 5.30 pm - 7.00 pm
Venue: Parmelia Hilton
Cost: Complimentary as part of your conference attendance ticket.

Details: A chance to network and socialise with your fellow subsea community as we wrap up the conference



2019 Conference Organising Committee:



Mark Casey Santos



Shuhong Chai
AMC UTAS



Steve Duffield
AHS



Pat Fournier
Neptune



Stuart Higgins
Curtin University



Ian Hobbs
Fugro



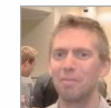
Graeme Moya
UTEC



Brendan Reid
Innovative Solutions Plus



Anurag Saxena
TMT



Chris Saunders
INPEX



Peter Wademan
Woodside Energy



Phil Wells
Neptune



AUT 2019

23rd October 2019

Parmelia Hilton Hotel

14 Mill St, Perth, Western Australia



Tuesday, 22 October 2019

Ice Breaker: 17.30 – 20.30 at the Belgian Beer Cafe, cnr King & Murray St

Wednesday, 23 October 2019

08.00 Registration, Tea/Coffee and Exhibition

08.30 Welcoming Address

Rex Hubbard, SUT Representative

A1 AUT – “Opening our Eyes”

Session Chair – Ian Hobbs, Fugro

08.40 Keynote Address: Sail, Steam....Autonomy? AUT's & 21st century Naval Operations

Commodore Chris Smith, Royal Australian Navy

Commander Paul Hornsby, Royal Australian Navy

09.05 Building on the X-Prize: Collaborative Unmanned Survey Capabilities
Richard Mills, Kongsberg Maritime

09.30 Optimising Hull, Mooring and Riser ROV/UAV Inspections - An Industry Position Mark Evans & Alex Mosnier, RHUM

A2 AUT - “Bites”

9.55 Dawn of the Drone: A new method for delivering ORM services subsea
Gilles Gardner, i-Tech 7

10.05 Long-Term Robust AUV Control using a Gyro-compassing Inertial Navigation System Geoffrey Lawes, iXblue

10.15 HUGIN Superior: Increased Survey Productivity
Richard Mills, Kongsberg Maritime

10.25 Tea/Coffee & Exhibition

A3 AUT – “Survey Operations & Subsea Inspection”

10.55 Drix, the mapping tool of the future
David Donohue, iXblue Pty Ltd

11.20 AUV Pipeline Inspection: now with OFG ICP
Craig Donald, ISES & Ray Smith, DOF Subsea

11.45 Stretch Break

11.50 FIGS® - Contactless CP on AUV
Leiv Erling Grytten, FORCE Technology Norway

12.15 A Cloud-Based Solution to AUV Pipeline Inspection
Lex Veerhuis, Fugro

12.40 Lunch & Exhibition

B1 AUT – “Power & Communications”

Session Chair – Peter Wademan, Woodside Energy

13.25 Subsea Power Enabling New Autonomous Technology Applications
Darren Burrowes, Blue Zone Group

13.50 Bi-directional wireless power transmission for underwater robotics and sensing
Morgan McDermont, Advanced Navigation

14.15 An Inductively-coupled Wireless Power Transfer Application for Autonomous Underwater Vehicles
Dowon Kim, Curtin University

B2 AUT - “Bites”

14.40 The use of highly economic, lighter class AUV's for shallow water infrastructure surveys.
Rachel Koch, Blue Ocean Monitoring

14.50 The Freedom ROV - An Autonomous Underwater Vehicle with Remote Piloting Using 4G Satellite Technology
Aaron Leather & Hema Gunasagaran, Oceaneering

15.00 Process Automation for Autonomous Survey Operations
Daniel Kruimel, Teledyne

15.10 Tea/Coffee & AUT Bites Q & A in Exhibition

B3 AUT – “Realising the Opportunities”

15.40 Enabling Autonomous Inspection Technologies to Transform ORM Operations Gilles Gardner, i-Tech 7

16.05 Using Simultaneous Operations of AUV and Seabed Sampling to Optimize Marine Mineral Exploration Programs
Christine Devine, Fugro

16.30 Stretch Break

16.35 Shearwater – A Homogenous Platform for Ocean Applications
William J. Kirkwood, MBARI

17.00 Unmanned Surface Vessels: A recent example of the Force Multiplier effect. Steve Duffield, Guardian Geomatics

17.25 Closing Address
Phil Wells, AHS Representative

17.30 - 19.00 Conference Closing Drinks

Major Sponsors



Cost & Inclusions

Costs include GST

SUT reserves the right to amend/change the programme as it sees fit.

Photography/videos are prohibited at this conference unless authorised by the SUT

Conference Registration: Early Bird
(Early Bird closes 1 October)

\$250 - SUT/AHS Member

\$300 - Non-member

\$130 - Student

N/C - Presenter

\$180 - Co-Presenter/Session Chair/Panelist

Ice Breaker

\$55 - Members/Presenters/Co-Presenters/Students

\$80 - Non-members

Fee includes:

Attendance at all technical sessions, USB of conference proceedings/PDF presentations, morning afternoon tea, lunch, delegate wallet and registration at the closing drinks.

Conference Registration: Regular
(from 2 October)

\$325 - SUT/AHS Member

\$375 - Non-member

\$150 - Student

To register visit <https://AUT2019.Eventbrite.com.au>

(Separate registration for Ice Breaker Function <https://AUTicebreaker2019.eventbrite.com.au>)