OCEAN SYSTEMS ENGINEERING

Joint Electrical Institutions Sydney - Engineers Australia, IEEE, IET

DATE & TIME

Thursday, 23rd June, 2016
5:30 pm for 6:00 pm start

VENUE

Engineers Australia Harricks Auditorium
Ground Floor, 8 Thomas Street,
Chatswood NSW 2067

COST

EA, IET, IEEE Members – Complimentary
Students – Complimentary
Non-members – Complimentary

CPD

Eligible for 1.5 Continuing Professional Development hours.

RSVP

REGISTER ONLINE

HOSTED BY

Joint Electrical Institutions Sydney

ENGINEERS AUSTRALIA Sydney Division

IEEE

IET The Knowledge Network

Topic - *Three-and-a-half great operational sonars*

Presenter - Dr Brian Ferguson, Maritime Division, Defence Science and Technology Group, Department of Defence

Operational (in-service) sonars have been used for over a century by naval forces across the full spectrum of undersea warfare domains including prosubmarine warfare, antisubmarine warfare, and mine countermeasures. A “great” sonar necessarily confers the warfighter with a capability edge over an adversary so that the odds are in favour of not only achieving the mission but, critically, surviving it. Three sonars are identified and justification given for each of them to be judged as “great”. The criteria chosen for sonar greatness are the capability gap that the sonar filled, the technical challenge it needed to overcome, its operational impact, and the new capabilities that it spawned in other warfare domains (like land warfare), or in countering modern-day asymmetric threats that endanger deployed forces abroad or else, pose risks to a nation’s security. The three sonars considered (in chronological order) are the Royal Australian Navy’s Oberon Submarine Enhanced Sonars (in service between 1987 and 1994), the United States Navy’s Wide Aperture Array Submarine Sonar (installed, for example, on Seawolf class submarines, with a light weight version on the Virginia class submarines), and the Royal Norwegian Navy’s Synthetic Aperture Sonar for countering the sea mine threat. The “half-a-great operational sonar” refers to the next “great” one, which is currently under research and development, with potential candidate sonars being identified.

SPEAKER BIOGRAPHY - Dr Brian G. Ferguson

Brian Ferguson is the Principal Scientist (Acoustic Systems Science) at Defence Science and Technology Group – Sydney. He is a Fellow of the Institution of Engineers (Australia), a Chartered Professional Engineer and a Fellow of the Acoustical Society of America. In November 2015, he was awarded the prestigious Silver Medal in Signal Processing in Acoustics by the Acoustical Society of America for contributions to in-air and in-water acoustic classification, localisation and tracking. The Silver Medal is presented to individuals for contributions to the advancement of science, engineering, or human welfare through the application of acoustic principles, or through research accomplishment in acoustics.

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