

TRACK 4: MISSION SYSTEMS / VIRTUAL TRAINING

“DETECTION TECHNIQUES USED IN PERISCOPE DETECTION RADARS INSTALLED ON BOARD MARITIME PATROL AIRCRAFT”

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ABSTRACT

Maritime Patrol Aircraft are usually mounted with periscope detection radars that are also used in detection of small objects such as buoys and swimmers if present. This paper discusses the challenges faced in distinguishing real targets from the sea clutter, that leads to high false-alarm rates. In addition, discussions on the techniques used in detecting small targets in sea clutter are also covered. This paper allows the participants to gain an insight on the design of high resolution radars specifically used in periscope and small object detection. It also attempts to introduce advances in new periscope detection radars.

BIOGRAPHY OF SPEAKER



Prior to working for TBSS, Dr Lee had extensive works with coastal surveillance radar systems and Vessel Traffic Systems radars. Dr Lee had also worked on electronic warfare projects, radar tracking algorithms and plot extraction for the Maritime Patrol Aircraft. Dr Lee had managed an EDB funded project, “The use of SAR Images for Oil-Spill Detection”, with CRISP and MPA. He was a fire control radar specialist with the RSN.

Dr Lee is a certified teacher for Higher Education. He had taught at University of Newcastle, James Cook University, University of Southern Queensland, SIM University, RMIT University, Northumbria University and Edith Cowan University undergraduate programs.

Dr Lee had conducted courses in Radar System Engineering, Radar Tracking and Phased Array Radar courses for the SAF, DSTA and DSO. Lee is the Immediate Past Chairman of the IEEE Education Chapter, Senior Advisor in Science and Technology of the Vietnamese Association in Singapore and the President of the Association of Old Crow Singapore Chapter. Lee is also a School Advisory Member of Henry Park Primary School.