

# SPEAKERS' CONTACT & PRESENTATION DETAIL FORM

## Composite Technology Seminar & Expert Forum

Republic Polytechnic / GMI Aero / Melchers, 10 February 2020

<b>Full Name / Title</b> (e.g. Mr, Miss, Mrs, Ms, Dr, Prof)	<b>Dennis Chai Tien Shung</b>	Speaker Photo
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**TITLE OF PRESENTATION:** NDT SOLUTIONS FOR THE INSPECTION OF THICK COMPOSITE COMPONENTS

### PRESENTATION ABSTRACT (200 words or less)

There is a range of well-established NDT methods for the inspection of thin composite components. These methods can be deployed using high-speed automated scanning systems and have advanced features that can adapt to the complex geometry of composite components in real time.

However, there are limited solutions for the inspection of thick composites. Thick composites are widely used in aerospace applications and other safety critical engineering applications and hence must be inspected for inherent manufacturing flaws as well as defects that initiate in-service. In this talk, solutions for the inspection of such composite components will be presented.

These solutions will focus on the utilization of ultrasonic phased array technology. Ultrasonic phased array technology has the particular advantage of being able to penetrate thick composites and can perform high-speed inspections. However, the inhomogeneous and anisotropic nature of composite materials means that the ultrasonic testing of this material is particularly challenging. It will be shown how advanced software solutions can be utilised to overcome these challenges and achieve the highest inspection sensitivity.

### SPEAKER BRIEF BIOGRAPHY (120 words or less)

Dennis Chai, Olympus NDT Application Specialist, has over 16 years of NDT experience. This includes eight years working as an inspector in the Oil & Gas construction and maintenance industry, utilising UT, ECT, and MFL techniques and advanced methods such as PA and TOFD. For the last eight years, Dennis has been working on the development, deployment and support of cutting-edge NDT products and solutions in the Asia-Pacific region. Recently he has been heavily involved in the design of novel inspection solutions for austenitic welds, FMC/TFM applications, and corrosion inspections in components with complex geometry.”