About the course

Composite materials are seeing rapid uptake in the aerospace and many other industries, with the latest aircraft comprising up to 75% composite materials by volume and 50% by weight. Realisation of the full potential of composites depends upon the maintenance of the intended structure through manufacturing processes and in use. Thus, as with other high performance materials, it is often necessary to use non-destructive evaluation (NDE) to identify and quantify potential problems in materials or structures.

The course will introduce participants to the latest ultrasonic NDE techniques currently available. The following topics will be covered:
- Introduction to ultrasound
- Introduction to ultrasonic inspection of composites
- Ultrasonic NDT for production inspection
- Ultrasonic NDT for in-service inspection
- Advanced 3D ultrasonic characterisation for composites
- Live demonstration session
- Examples and case studies from many industry sectors will be presented

The course is aimed at engineers, scientists and industrial managers with current interests in composite materials, either recent graduates or experienced technical personnel, who would like to gain a conceptual and practical appreciation of ultrasonic NDE methods.

Fees & Registration

The Master Class Course fee is S$1000 per participant, $500 after subsidy. Course material will be provided. Subsidies up to 50% are available to qualifying applicants through the Singapore Workforce Development Agency and other sources. Please contact Samantha Chan for details.

Lunch and refreshments will be provided.

To attend, please contact Samantha Chan via email chanskf@scei.a-star.edu.sg for registration

Course Presenter

Dr. Robert Smith

Dr. Robert Smith is President Elect of the British Institute of Non-destructive Testing (NDT) and an EPSRC (UK) Fellow at the University of Bristol, where he is leading collaboration between the structural integrity, design, manufacturing and NDT communities to open up the design space for composites structures and materials, allowing lighter designs and lower-cost manufacturing methods.

Prior to his EPSRC-Bristol appointment Dr. Smith was Senior Technical Fellow at QinetiQ (UK), where he led the development and commercialisation of advanced NDT tools and solutions for composites inspection.

Dr. Smith has authored over 95 publications and two patents. He is also a Fellow of the Institute of Physics, a Fellow of the British Institute of Non-destructive Testing, a Chartered Physicist and a Chartered Engineer.