

SPEAKERS' CONTACT & PRESENTATION DETAIL FORM

Composite Technology Seminar & Expert Forum

Republic Polytechnic / GMI Aero / Melchers, 10 February 2020

Full Name / Title (e.g. Mr, Miss, Mrs, Ms, Dr, Prof)	Dr. Isakov Dmitry	Speaker Photo
Company / University / Center / Department	Latheacond Technologies Pte Ltd	
Appointment Held	CTO	
Phone Number	97521305	
E-mail Address	dmitry@latheacondtechnologies.com	
TITLE OF PRESENTATION (15 words or less) Inspection and analysis of composite structure defects		
PRESENTATION ABSTRACT (200 words or less) In this talk we will discuss our research in composite heat damage detection. Heat exposure of composites can lead not only to a blister or a delamination, it can also cause minute damage on microscopic level. Such damage cannot be identified using traditional NDT techniques but can reduce strength of the composites by up to 20%. That is why such defects are commonly referred as incipient heat damage. Currently the only tool certified for incipient heat damage inspection is based on spectroscopic evaluation of chemical changes in composite matrix. This is a surface detection technique and we will show that this technique might be a good indicator of actual damage in the subsurface layers of composite. To overcome this limitation, we proposed an alternative method of Composite Heat Damage Detection (CHDD) that is based on measuring changes in effective thermal conductivity of the composite. The presentation will discuss the theory behind the approach and demonstrate some latest results.		
SPEAKER BRIEF BIOGRAPHY (120 words or less) Dr. Isakov Dmitry has M.Sc. From Physics Department of Moscow State University and Ph.D. degree from Electrical and Computer Engineering Department of National University of Singapore (NUS). He has 12 years of R&D experience, with 4 granted patents and 6 pending. His research was published in multiple journal papers and conference proceedings and has received several international and local awards. His research interests are currently focused on vacuum assisted thermal management, aerospace composite inspection and repair, and food security applications.		