



Workshop on Advanced Composite Materials Design and Analysis



Overview

From the fabrication of human prosthetics to tennis rackets and from automobiles to boats, composite materials are being used as structural material in engineering products due to their superior physical and mechanical properties. However the design and analysis protocols of composite materials and structures are considerably more complex due to their anisotropic and heterogeneous nature. To achieve safe, reliable and efficient structural systems, the designer has to have a sound knowledge and viable grasp of the underlying principles of the micro-macro response of composite structure in varying conditions. This course aims to provide firm understanding about mechanics of composite materials using rule of mixture, thin laminate theory, and design guidelines to permit their efficient applications in engineering industries.



17-19 Apr-2019



Video Conference Room
Institute of Space Technology, Islamabad

- Advantages & Applications; Composite Materials.
- Strength of Unidirectional Lamina
- Elastic Behavior of Multidirectional Laminates
- Micro Mechanical Analysis
- Hygrothermal Response of Composites.
- Progressive Failure Analysis, Strength Ratio.
- Effect of Matrix Coefficient on performance
- Experimental/ Optical Testing Techniques.
- Damage Tolerance of Composite Structure.
- Analysis of Sandwich Structures
- Good Composites Design Practices; Mic Mac
- Analysis of Composite Structures using FEM
- Optimization of Composites Structures; MMF
- Computational Analysis /Case Studies

Principal Speakers

- Professor Zaffar M. Khan, Institute of Space Technology, Islamabad
- Dr. Rizwan Saeed, University of Bath, UK, *FEM Modeling of Composite Structures**.
- Dr Ghulam Mustafa, University of Victoria, Canada, *Optimization of Composite Structures**.
- Dr F. Sheikh, Consultant, Aircraft Manufacturing Company, *FEM Modelling**.

(* Tentative)

Who should attend?

Engineers, scientists, managers involved in design, analysis, development, manufacturing, procurement, management of composite materials. All participants are expected to bring laptops.

Registration fee covers free lunch, tea and stationery.

Registration Fee (Rs 20, 000/ person)

<http://www.ist.edu.pk/oric/pdc>

Name _____ Contact _____ Email _____

Sponsoring organization/ Address _____

Registration fee _____

Payment mode: Cross Cheque/Cash/ Bank A/c _____

Contact: 051-9075663, 03450518641

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Nominations may please be forwarded by

Apr 15, 2019, 1600 hrs